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ABSTRACT

The Columbia Classroom Environments Project (CCEP) report discusses a number of questions about a set of dimensions of learning and development as well as the instruments the project was developing for the analysis of behavior in learning environments. Joseph C. Grannis examines The Argument, Assumptions, Definitions, Hypothesis; Rochelle Mayer describes Behavior Observation Ratings in Settings (BORIS). Michael Greene and Fay Logan discuss Involvement Ratings in Settings (IRIS). The Autonomy, Heteronomy, and Objectivity of an Individual's Social Contacts: Dyck's Social Contact Code and CCEP's JURIS is the focus of an examination by Joseph C. Grannis and Daniel White. Joseph Grannis, David Jackson, and Sally Kaminsky describe Behavior Episode Structure in Settings (BESIS). Sally Kaminsky and Frances Aversa discuss Analysis of Teacher Behavior Stream Records. A Study of an Open Classroom from September to June, is reported by David Jackson. Joseph B. Roberts, with Nancy Gropper, Leonard Huber, and Carole Oligario examine The June 1971 Pilot Study to Test the Construct Validity of the Pupil Role Interview and Coder Reliability. The CCEP Teacher and Parent Surveys are the focus of an examination by Walter Furman. Peter Shaw summarizes the Analysis of Project Differentiation in Parent Interview Data. (Author/JM)

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COLUMBIA CLASSROOM ENVIRONMENTS PROJECT

FOURTH PROGRESS REPORT

Project Director: Joseph C. Grannis
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December, 1971

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I. QUESTIONS

Columbia Classroom Environments Project

In this first chapter, we will relate a number of questions to a set of dimensions of learning and development, and to the instruments the Columbia Classroom Environments Project is developing for the analysis of behavior in learning environments. The basic dimensions, autonomy, heteronomy, objectivity, and integration, are explicated theoretically in Chapter II. The core of this theory is a model that construes self, other, object, and symbol as the fundamental terms of the various settings of human thought and action, and of the several domains of judgment -- the knowledge, social, and physical domains -- that individuals bring to bear on thought and action.

We have construed autonomy, heteronomy, objectivity, and integration as valid parameters for the evaluation of programs in Project Follow Through not only on theoretical grounds, but because of their correspondence to statements of objectives by one or another, if not all, of the Follow Through sponsors. This correspondence is merely hinted at in this report. Following something of a game constraint, we will only quote sponsors' statements from Maccoby and Zellner's Experiments in Primary Education: Aspects of Project Follow Through (New York: Harcourt Brace Jovanovich, 1970). Interestingly, it is most difficult to find clear statements pertaining to objectivity in this book, not only in its most familiar social sense, but in other senses, indicated in Chapter II, that have to do with the individual's orientation to the assumed giveness of concrete objects per se, and to the public meanings of symbol systems that objective achievement tests, very prominent in the evaluation of Project Follow Through, are especially related to. Within the boundaries set forth in Chapter II, CCEP is in fact very interested in the

results of objective tests, and how they might vary as a function of the setting variables that we are attempting to establish. However, it has not been our province to develop or administer such tests, and they will not be referred to in the remainder of this chapter.

All of the instruments CCEP is developing for the observation and coding of behavior in classrooms, or in learning environments more generally, are designed to attend simultaneously to the behavior of one individual at a time and to the properties of the settings in which we observe him. There are two implications of this for evaluation. First, the instruments will be able to discriminate between individuals who bring different histories or past experiences to a setting, if their behavior indeed varies in the new setting. Secondly, the instruments will be able to discriminate between the settings themselves, to establish similarities and differences across programs, and to specify the settings to which behaviors influenced by past histories are transferred or adapted.

CCEP's instruments are in various stages of development. Except for the Pupil Role Interview, all of them have been substantially influenced by continual resort to the data collected in CCEP's 1970-71 observations in second grade classrooms recommended by the Bank Street, Bushell, and Engelmann-Becker programs in Follow Through, and by the Creative Teaching Workshop, a sponsor of open classrooms outside of Follow Through, and non-Follow Through children in the spring of 1972 be construed as a pilot study for further development of the interview protocol and coding.

It is crucial that CCEP's interview of FT

The classroom observation instruments and the interview have all been carefully grounded in previous research and theory, and are all conceptually and strategically related to one another. Figure 1 suggests their relationships very abstractly. Behavior Observation Ratings in Settings (BORIS) is

Figure 1.

COLUMBIA CLASSROOM ENVIRONMENTS PROJECT INSTRUMENTS

Behavior Observation Ratings in Settings

BORIS

For directly coded observation of child-teacher, child-child, and child-material interactions. Focuses on one subject over any length of time, codes setting properties and subject's behavior at 15 second intervals.

Judgment Ratings in Settings

JURIS

For subsequent coding of behavior stream observation records. Focuses on all social contacts involving disagreement or conflict between subject and another individual, codes nature of the issue, process of resolution, and adaptedness, of resolution to self, other, and object or objective task.

Pupil Role Interview

PRIN

Ascertains developmental level of general ego ideal and of ego norm as learner, provides frame of reference in which to interpret different statements with respect to self, other, and object in the learning environment.

Involvement Ratings in Settings

IRIS

For directly coded observation of an individual's involvement in child-teacher, child-child, and child-material interactions. Uses nonverbal indices, is coordinated with BORIS.

Behavior Episode Structure in Settings

BESIS

For subsequent coding of behavior stream observation records. Analyzes episode and phase structure, source of initiations, the connectedness of sequential behavior segments, and the compatibility of simultaneous behavior segments.

designed for direct observation coding of variations in child-teacher, child-child, and child-material interactions in settings, and the match of an individual child's behavior to the setting expectations that obtain at 25 second intervals. Involvement Ratings in Settings (IRIS) is intended for simultaneous use with BORIS, to code by nonverbal indices a child's involvement with the teacher, other children and/or with materials. Behavior Episode Structure in Settings (BESIS) is a refinement and extension of Barker and Wright's procedures for analyzing the properties of behavior in a continuous record of a behavior stream segment, focusing especially on the episode, section, and phase structure of an individual's behavior, on the relationships between main and alternative episodes, on the initiation of different episode segments, and on the interrelatedness of the parts and the whole of different segments. Judgment Ratings in Settings (JURIS) examines those social contact phases of the behavior stream in which the observed individual is engaged in disagreement or conflict with one or more other individuals, and codes the nature of the issue, the process by which the issue is resolved or abandoned, and the adaptedness of the resolution to self, other, and object or objective task. Finally, the Pupil Role Interview examines the relationships of a child's ego norms as learner to his general ego ideal, focusing especially on the development of his preferential judgments with reference to self, other or object, and objective order in the learning environment, and with respect to the pre-operational, concrete operational, or formal operational nature of his reasoning.

Coder reliability studies are currently being conducted on all of these instruments.

BORIS and IRIS will be pilot tested in Bank Street, Bushell, and Engelmann-Becker third grade classrooms this winter. BESIS and JURIS will be

applied this winter and spring to the systematic analysis of the data collected in CCEP's spring 1971 observations. All of the instruments will then be ready for revision and adaptation to the requirements of a study of the transfer of children's behavior from Follow Through classrooms to the found classrooms they enter in the fourth grade, or to constructed classrooms that CCEP could design for the observation of transfer under controlled conditions.

Though we have selected classrooms from just three Follow Through programs for our pilot studies, we have every reason to believe that our instruments will be valid to apply to the analysis of behavior in any Follow Through or comparison classroom. This should become apparent to the reader when he consults the chapters in which the instruments are specifically described and explained.

We are aware of at least one major avenue of analysis that is necessary to the integration of this system of instruments, and that is inadequately represented in the instruments in their present form. This is the cognitive complexity of the knowledge processes and contents of different classroom settings and the thought and action of individuals in the settings. JURIS does make some analysis of this with respect to the resolution of issues, and BESIS touches upon it through the analysis of the relationships of the parts to the whole of behavior episode segments. However, we have postponed until later in the coming year the development of a code that would examine the structure of knowledge processes and contents in, say, terms like Guilford's. This analysis is, indeed, of great interest to CCEP, and central to the hypotheses stated at the conclusion of Chapter II. It has been postponed until CCEP is fully prepared to deal with the problems that are involved, and we are in the meantime carrying out a year-long case study of the thought and

action of six children in one local open classroom, with particular emphasis on an exploration of the development of the children's knowledge. Chapter VIII describes this investigation in a single classroom.

Let us now procede with our questions. They do not begin to exhaust the questions that we have, or that we think our instruments will be able to illuminate. A theoretical statement of CCEP's most fundamental questions has, in fact, been confined to Chapter II and the exposition of the coding systems, in order to focus the evaluation questions more sharply here.

The observation or interview instrument that we believe is appropriate for answering one or another question is indicated in parentheses following the question. Where an asterisk has been added to the code designation, it signifies that we have started to think about how the code might be adapted to the question, but that this adaptation is not yet operational.

A further caveat is necessary. Taken one at a time, the questions stated in this chapter could suggest a very unbalanced view of what matters in learning and development. It is true that each of the questions will reflect matters of greater concern to some of the Follow Through sponsors than to others, but we do not mean them to be asked in isolation from each other.

A. Autonomy. The control by self of self's thought and action.

> A fundamental educational aim is for children to assume responsibility for their own learning. There is a rich environment of materials for children to explore. They are encouraged to initiate activities, be self-directing, and become intensely involved in their interests. Typically, there is a variety of activities going on, much of them interdisciplinary. The time schedule is flexible, permitting children to learn according to their individual rhythms of engagement and disengagement. The theme of self-management also finds expression in a social environment of cooperation where children work together and learn from one another. (Maccoby and Zellner on EDC, p. 6)

> The goal would be what Nimnicht starts with: autotelic. I think it's theoretically possible to set up an autotelic environment that would so capture interest and also guide it in the direction of learning so that it would work. I think it's extremely difficult to do, and takes more resources than we now have available in the way of high-feedback devices -- or more people. We do aim for the kind of motivation that will allow the child to work in a nonprogramed environment, because most environments will be nonprogramed, and if we want a generalized learning skill, the child has to have something that's not specific to our setting. On the other hand, we feel we must take the kids where they are, and if they're not intrinsically motivated when we get them, we're not going to be pious about it. The problem is, How do you get off the systematic reinforcement, how do you gradually fade it out, extend your schedule of reinforcement, and allow the child to work for self-generated mediated reinforcements? We have a good theory concerning this, and virtually no research. That's the main thing we want to study now: How to get children off the reinforcement without losing the behavior. (Resnick on the Primary Education Model, M&Z, p. 74.)

1. In settings where the expectations for attending to and addressing the teacher are low, how often do different children interact with the teacher? (BORIS) Are these contacts initiated by the child or by the teacher? (BESIS) FOR A BRIEF DISCUSSION OF THE POSSIBLE ALTERNATIVE SIGNIFICANCES OF A CHILD'S BEHAVIOR NOT MATCHING SETTING EXPECTATIONS, SEE THE END OF THIS CHAPTER.

2. In settings where the expectations for attending to and addressing the teacher are low, how involved are different children in their activities? (IRIS)

3. In various settings, how often do different children explicate issues between themselves and other persons with reference to their (the subjects') self, how often do they make suggestions, requests, and commands in the process of resolving the issues, and how often is the resolution of the issues adapted to self? (JURIS)

4. In settings where the expectation for a teacher's pacing children's activities is low, how much of different children's activity occurs in behavior stream segments the initiations of which are spontaneous or uninduced instigated,

how sustained are these behavior stream segments, and how much are they associated with standardized positive teacher response? (BESIS)

5. In various programs, how often are different children's references to self in the Pupil Role Interview defensive or coping, how often do they perceive their relationships to other or object in externally or internally controlled terms, and how often do they interpret the objective social order as sanctioning choices or imposing decisions upon them? (PRIN*)

B. Heteronomy. The orientation of self's thought and action to the thought and action of others.

> One of the definite goals of the Tucson program has been to show a concern for the other human beings in the class. A child who meets a visitor in our classroom will very likely say, 'Come and see what so-and-so has done,' rather than, 'Come and see what I've done.' This concern is not only for other individuals, but for the group as a whole or for a small group. (Weaver on the Tucson Early Education Model, M&Z, p. 79.)

> Several categories of 'academic skill' may be identified, but one frequently overlooked is that constellation of behaviors which make up the social role of the student. Children who say 'Good morning' to their teachers, who raise their hands when appropriate, who can distinguish between the time to talk and the time to be silent, who can stay with an assigned task, and who respond appropriately to the praise and compliments of the teachers, possess skills which are advantageous to the control of their school environment. Skill in this category, as well as with other academic facts, must be developed if a child is to compete successfully in the school system. (Bushell, M&Z, p. 85)

6. In settings where the expectations for attending to and/or addressing the teacher are high, how often do different children attend to or address the teacher? (BORIS) In settings where the expectations for interacting with other children are high, how often do different children interact with other children? (BORIS)

7. In settings where the expectations for attending to and/or addressing the teacher are high, how involved are different children in this interaction? (IRIS) In settings where the expectations for interacting with other children are high, how involved are different children in this interaction? (IRIS)

8. In various settings, how often do different children explicate issues between themselves and other persons with reference to the other

how often do they ask and answer questions in the process of resolving the issues, and how often are the resolutions of the issues adapted to other? (JURIS)

9. In various settings, how often are different children's activities initiated in response to social instigation, and how often is induced social instigation followed by pressure to initiate activities? (BESIS)

10. In various programs, how often are different children's references to other approach responses or avoidance responses? How often do different children perceive others as resources for or as obstacles to their activity? (PRIN*)

C. Objectivity. The orientation of self's thought and action to the public or impersonal or given properties of a symbolication of or a referent of thought and action.

> A child learns a concept by a variety of experiences, manipulating a whole set of things around that concept rather than just by being taught 'this is a doll, this is a boy.' He's got to give you a doll, throw a doll, kiss a doll, take it apart, to really understand this concept. (Gordon, The Florida Project, M&Z, p. 42)

> Our guiding principle is that the environment should be arranged so that the child is likely to make discoveries about his physical and social world. /It/is based upon the principle that a child better

> remembers what he discovers for himself. Furthermore, we believe that problem solving is the essence of learning, and is best learned in an environment that poses problems and encourages the discovery of their solutions. (Nimnicht, The Responsive Model, M&Z, p. 38)

11. In settings where theexpectations for children's interacting with materials are high, how often do different children interact with the materials? (BORIS)

12. In settings where the expectations for children's interacting with materials are high, how involved are different children in this interaction? (IRIS)

13. In social issue contacts that involve materials, how often do children explicate the issues between themselves and other persons with respect to the materials, how often do they make nonevaluative statments in the process of resolving the issues, and how adapted are the resolutions of the issues to the objects and the objective tasks? (JURIS) In social issue contacts that refer to a third person who is not a disputant, how often are the resolutions of the issues adapted to the third person? (JURIS)

14. In settings where the expectations for children's interactions with materials are high, how sustained are the behavior stream segments that include interaction with materials? (BESIS) In settings where children are expected to interact with materials in a prescribed manner, how much of the behavior streams of different children match this expectation? (BESIS*) In settings where children are expected to interact with materials in a problem solving or an inventive manner, how much of the behavior streams of different children match this expectation? (BESIS*)

15. In various programs, how often do different children interpret objects as resources for or as obstacles to their learning? (PRIN*)

D. Integration. The harmonious or balanced relationship, both in thought and in action, of self with others and with objects, or of self with self as object of self (the I-me relationship in Mead's terms.)

> In our program for young children there's a central use of play, and it reflects how the child perceives relationships, reveals how he orders the world, and this is the way he learns to integrate his ideas and to develop them. The task of the teacher in relation to play is to advance it, to make it more coherent, and extend the child's level of functioning. During the preschool year, the child's play shifts to take or a quality of industry and self-initiated activities. He is becoming more involved in understanding the physical and social environment. When the child enters primary school, the teacher's role continues to be one of developing, clarifying, and extending the child's competence, but her techniques for supporting learning through play are different in primary school from what they are in preschool. (Zimiles on The Bank Street Model, M&Z, p. 39)

> With our goals being these intellectual processes: comparing, recalling, looking, consequences, relationships -- any content is all right with us. I'm not saying there might not be criteria for content later on. But for the young child, if we're going to build a motivational system for learning and the self-concept 'Ican learn,' we must make the content relevant, give the experiences that evoke this wide range of mental processes, that evoke reorganization, that evoke expansion of what they know, evoke active work on their part. (Hughes on the Tucson Early Education Model, M&Z, p. 39)

16. In settings where there are high expectations for children's interacting with one another in shared tasks, how often do different children interact with other children? (BORIS)

17. In settings where there are high expectations for children's interacting with one another in shared tasks, how involved are different children in this interaction? (IRIS)

18. In various settings, how often do different children contribute to resolutions of social contact issues that are highly adapted to self, other, and object (or objective task) equally? (JURIS)

19. In various settings, how often are the adjacent segments of different chil-

dren's behavior streams related contingently or integratively, as opposed to being related algorithmically or additively? (BESIS) In settings where the expectations for the teacher's pacing the children's activities are low, how long are the main episodes of different children sustained or permeated, and how much are they arrested or interrupted? (BESIS) In various settings, how long are the alternative episodes of different children sustained or permeated? (BESIS) In various settings, how much of the alternative episodes of different children contribute to learning in the classroom, and how much do they interfere with learning in the classroom? (BESIS*)

20. In various programs, how often do different children's references to an objective order in the learning environment mediate the conflicting claims of self, other, and object or task, and how often do they fail to recognize or mediate conflicting claims? (PRIN*)

Let us now make several observations, beginning with what J. McVicker Hunt has called "the problem of the match." Two years ago, Hunt wrote the following:

> If encountering a given set of circumstances is to induce psychological development in the child, these circumstances must have an appropriate relationship to the information and skills already accumulated by the child. This is no easy matter. Ordinarily, the best indicators of an appropriate match are to be found, I now believe, in emotional behavior. They are evidences of interest and mild surprise. If the circumstances are too simple or too familiar, the child will fail to develop and he is likely to withdraw into boredom. If the circumstances demand too much of a child, he will withdraw in fear or explode in anger. So long as the child can withdraw from the circumstances without facing punishment, loss of love, fear of disapproval, or what-not, I believe it is impossible to overstimulate him. The challenge in such a conception of "readiness" as that involved in "the problem of the match" is basically the problem of preparing the environment to foster development. We are a long way from solid knowledge of how to do this, but I believe we do have some sensible suggestions about how to proceed.
>
> (J. McVicker Hunt, "Black genes--white environment," Transaction, Vol. 6, #7, June 1969, pp.17-18)

CCEP has been very much influenced by this statement, particularly

for the support it gave to the initiative of Greene, Logan, and Mayer of our project, who proposed our studying involvement in different settings, on the basis of their own earlier studies and their examination of CCEP's 1970-71 videotapes from Follow Through classrooms. Suppose, to sharpen the argument, that standardized achievement tests simply did not discriminate significantly (in the economic as well as the statistical sense) between one educational program and another. If there were larger significant differences between the involvement of children in one program and the other, one might infer that learning and development were taking place that the tests did not measure. The problem at this point, however, is that a given program, or a given constellation of classroom settings, might not be expected to provide Hunt's "appropriate relationship" for all children equally, and thus one must be able to describe the settings in which involvement is observed. This is our "problem of the match."

Consider the different interpretations that can be given to a match or mismatch between setting expectations and a given child's behavior. If the child matches expectations for high control by self and simultaneous relating to other, we might define this as exhibiting high autonomy and heteronomy within the setting. Behavior that did not match these expectations, on the other hand, could not be defined or assumed to evidence a lower capacity for autonomy and heteronomy, but would have to be analyzed in terms of its instrumentality for the individual in question, for example, as an adaptation to inconsistent setting expectations or possibilities. Behavior that matched highly prescriptive conditions that entailed expectations for low self direction and relating to other could not be assumed in itself to evidence lack of capacity for autonomy and heteronomy, but would have to be compared with the individual's behavior in less prescriptive settings. Again, behavior that did not match highly prescriptive expectations might indicate a still

lower capacity for autonomy and heteronomy in a learning setting, or, alternatively, the alienation of an individual whose capacity is higher than the setting expectations recognize. These and still other complications must all be weighed in the evaluation of different programs' contributions to children's learning and development.

It is CCEP's theory which ultimately persuades us that we can figure out how to keep track of these various possibilities. However, in order to compare the same children's behavior in different settings systematically, even given the variation of settings within most classrooms and the similarities of settings across classrooms, it will be necessary to combine observations in found classrooms with observations in controlled settings. The necessity for observing in controlled settings has been recognized by both CCEP and USOE from the very outset of this project, and we are now approaching the time when a yes or no decision will have to be made, and can be made.

We are unhappily aware that the data we collected for the 1971 spring study of 12 classrooms is inadequate for some of the coding decisions that BESIS requires, and for many of the decisions required by JURIS, particularly because it was so difficult to hear child-child interactions. Our analysis of this data this spring will suffer accordingly. It is because this data is too unsuitable for BORIS and IRIS that we have launched a new observation with these instruments this winter. On the other hand, the spring 1971 data has been highly functional for the initial development of our coding instruments, and we would be astonished if significant patterns did not emerge in our analysis of that data which is codable with JURIS and BESIS. From this experience, furthermore, we expect to learn much that will enable us to revise or make more sensitive and precise the observation techniques that further study of learning environments will require.

A final comment pertains to Furman's and Shaw's study of the social context of the classrooms we observed last year, through their questionnaire and interview survey of teachers, aides, and parents. (See Chapters X and XI). The first results of this study are already fulfilling its promise of providing perspective on the classrooms we observed, and they reinforce our conviction that any future observation study we undertake of programs in classrooms should be related similarly to the social context of the classrooms.

II. THE ARGUMENT

ASSUMPTIONS, DEFINITIONS, HYPOTHESES

Joseph C. Grannis

1. An evaluation design becomes most powerful when it provides for direct measurements of phenomena on different levels. In education, this means that both program and learner phenomena should be measured.

2. The evaluation of an educational program should be able to specify, both theoretically and empirically, the processes of interchange between the program and the learner levels of the learning environment.[1]

3. The purpose of evaluation of an educational program is to determine in what ways the program does or does not foster learning. When the evaluation design does not allow for specification of the processes of interchange between programs and learners, the effect, as often as not, is to evaluate the learners rather than the programs.

4. When the evaluation design does specify the processes of interchange between programs and learners, the evaluation sample can be chosen most strategically.

a. A first sample, to determine program effects on learners, need be only large enough to determine (i) if program variables make a difference, and (ii) what parameters discriminate between more and less effective exemplars within each program.

b. A second, and larger, sample could then examine exemplars to

[1]See end of chapter for footnotes.

determine the extent to which they resemble the more effective exemplars of the first sample. This second stage is best construed as ongoing evaluation by program sponsors to support effective implementation of program models, or change of program models, rather than as an across-the-board evaluation at an arrested moment in the process of program development.

5. The basic criterion by which educational programs should be evaluated is their contribution to the learners' basic capacities to learn. This contribution should be examined with reference to both (a) how programs support learners' accomplishment of their own real-time or present objectives, and (b) how programs enhance the probability of learners' accomplishing future or life objectives. In a very general sense, these both have to do with how programs help individuals learn to learn.

6. How a program contributes to learners' accomplishment of specific present objectives can be most directly inferred from observation and analysis of behavior in the present learning environment. Educational evaluation traditionally has not done this, either because it was not deemed important to do so, or because the evaluators lacked the conceptual and procedural tools to conduct the analysis. Interview or questionnaire surveys of learner opinions can be, and are sometimes, used to obtain indirect indicators of program support for learners, but by themselves these measures are inadequate for specifying the actual linkages in the environment.

7. How a program contributes to the probability of learners' accomplish-

ment of future or life objectives can best be determined from a combination of testing, interviewing, and observation of the learners' behavior in the learning environments to be evaluated and in environments that differ systematically from the environments of the programs to be evaluated.

a. Testing, particularly of reading and arithmetic in the case of elementary school children, is valid in so far as it is used to determine how programs make a difference with respect to parameters that have been established to predict future accomplishment of objectives. Testing for the evaluation of programs is not valid when attainment of a given performance level is taken as an end or criterion in itself, without regard to other factors that may contribute to the performance level. It may be, for example, that the limits of reading and arithmetic performance at a given age are a function of basic intelligence as defined, circularly, by prediction of school test performance. A nonsignificant difference between two programs, neither of which produces performances that reach a pre-determined criterion level, does not in itself demonstrate either the success or the failure of the programs with respect to the test parameters. One should ask, rather, whether the programs in question enhance the probability of learners' performing at levels that are reasonable to expect from a knowledge of population characteristics, for example, I.Q. or socio-economic membership, the latter because it is so closely related to I.Q. and may be the most critical variable to change in order to obtain changes in I.Q. related performances.[2] In other words, one should ask first of all how programs enhance learners' actualization of capacities that, for the program, must be recognized as givens, rather than attri-

buting to the program successes or failures that call for attention to the larger, out-of-school and early childhood contexts of the learners' development.

Tests, at least as traditionally construed, represent a subset of behavioral objectives that encompasses performances to demonstrate already achieved learning, rather than performances intended to result in new learning. In so far, again, as these performances are evaluated from the standpoint of growth or progress, rather than from a fixed criterion without regard to learning parameters, the testing can have validity for both the self and others in the learning environment. However, the more disparate the testing conditions are from the normal or found learning conditions of the learning environment, the more likely it is that tests will be perceived by the learner as invoking or requiring judgments by criteria that are different from the criteria that obtain in the learning environment.

Of course, reading and arithmetic are not the only areas in which tests might be used with validity. The Eight Year Study concerned itself with the contribution of different programs to learners' capacities for critical thinking, and it operationalized critical thinking in terms of a set of tests that have had considerable effect on subsequent program design, and on internal, if not external, program evaluation. Critical thinking, however, may represent an area of behavior that is particularly liable to distortion when it is assessed in a test setting, instead of in a learning setting. A more valid assessment of critical thinking will probably be obtained in a constructed learning environment, in which certain settings could be construed both as tests and as learning settings for the individuals tested. Again, the Eight Year Study did relate learner

performance to descriptions of the learners' programs, but it did not relate this performance to observations in the learning environments of the programs.

b. Interviewing also should be related to parameters that predict the accomplishment of future or life objectives, or to parameters that predict future learning, and is also valid only in so far as one asks how programs enhance learners' actualization of capacities that may be a function of largely out-of-school factors. For example, interviewing to assess learners' performance levels in terms of the Piagetian sequences of cognitive development should be more concerned with establishing whether a program appropriately matches or mismatches the basic level of a learner's cognitive development, than with the success or failure of a program in changing the level of this development. More specifically, the developmental interview is best used to determine the direction and degree of the décolage between the basic level of a learner's cognitive development and the level of his cognition of school experiences.[3] This assumption probably applies as well to the use of interviews to assess learner characteristics that are not construed developmentally, for example, sense of fate control.

c. Observation of learners' behavior in found and comparison learning environments should be conducted with reference to those parameters of behavior that are the best predictors of the learners' capacity to learn in more future environments. Again, the key question to ask is whether the found environment of a given program contributes or detracts from a learner's capacity to adapt to a comparison learning environment

that presents opportunities and demands appropriate to the learners' basic level of development. For example, one might examine in this way whether a learner's behavioral orientation to teachers and to other learners in a classroom has been facilitated or retarded by his experience in a given program, taking into account the expectations that might reasonably be held from the standpoint of the learner's basic development of a role-taking capacity, i.e., a capacity to take the point of view of other's role.[3a] With reference to the learner's thought-and-action as well as his thought alone, then, one is interested in the direction of the school related décolage. This basic question can be asked in two ways: what is the transfer of learners' behavior patterns from the found classroom of a program to be evaluated to a successor found program or learning environment?, and what is the transfer of learners' behavior patterns to a constructed, or controlled, learning environment, either directly from the program to be evaluated, or indirectly through the successor found program, to the constructed learning environment?

8. How a program contributes to learners' accomplishment of specific present objectives can be inferred from observation of behavior in the present learning environment and analysis of the behavior in the following frame of reference:

a. What are the sources of criteria in the learning environment that define behavioral objectives for the learners?

i. Self, or the learners.

ii. Others, or teachers and peers.

iii. Objects, both material and symbolic.

b. What in the learning environment contributes to the accomplishment of the learners' behavioral objectives?

i. Thought and action of self.

ii. Thought and action of others.

iii. Properties of objects.

c. What is the solution adaptedness of the learners' behavior?

i. To criteria of self.

ii. To criteria of others.

iii. To properties of objects.

d. Who judges the solution adaptedness of the learners' behavior?

i. Self.

ii. Others.

It should be noted that "behavioral objectives" in the above refers to the objectives actually manifested in the learners' behavior, as defined by behavior episoding criteria.

9. How a program contributes to the probability of learners' accomplishing future or life objectives can be inferred from an analysis of test and interview performances and observed behavior, from the standpoint of the following basic parameters of human learning and development:

a. Autonomy, or control by self of self's thought and action.

b. Heteronomy, or orientation of self's thought and action to the thought and action of others.

c. Objectivity, or orientation of self's thought and action to the public or impersonal properties of a symbolization of or a refetent of thought and action.

d. Integration, or the harmonious relationship, both in thought and in action, of self with others and with objects, or of self with self as object of self (the I-me relationship, in Mead's terms.)

That the evaluation of an educational program should be concerned with parameters that have the most generalizable relationship to future and life objectives was the first assumption made by CCEP in embarking on the present study. How we have come to identify the four parameters defined above is briefly discussed in the four next ensuing sections. We are now attempting to operationalize these parameters in relation to CCEP's several observation and interview coding systems, as discussed in other chapters of this report.

10. Autonomy, or control by self of self's thought and action, was the first general parameter that CCEP identified. It has been established as a parameter that distinguishes between higher and lower levels of work satisfaction, between the demands upon workers of higher and lower income jobs, and between the expectations or values of higher and lower socio-economic status parents for their children.[4] Autonomy has also been associated with different levels of effectiveness and satisfaction in political, artistic, physical, and other personal and social spheres of the self's thought and action.

11. Heteronomy, or orientation of self's thought and action to the thought and action of other persons, was at first not differentiated by us from autonomy, i.e., we at first confused heteronomy with low autonomy. Their true relationship became more apparent as we pursued the consequences of drawing an analogy between autonomy and heteronomy and Piaget's assimilation and accomodation. The general capacities of the organism for assimilation and accomodation, while originally undifferentiated,

become increasingly distinct, and, not least important, each contributes to the development of the other. Thus, not only the differentiation, but the developmental nature of autonomy and heteronomy, was suggested by the analogy to assimilation and accomodation. That this was consistent with the Meadian interpretation of the development of self-other relationships, to which some of us in CCEP have been more oriented, added to the validity of our identifying both autonomy and heteronomy as basic parameters of learning development.

It turns out that, when heteronomy has been distinguished from low autonomy, it too, together with autonomy, is associated with higher levels of work satisfaction, the demands of higher-income jobs, and so forth.

12. Objectivity is a third basic parameter that we have now added to autonomy and heteronomy. Piaget does not distinguish operationally between accomodation to other persons and accomodation to impersonal objects, although he recognizes the distinction in his focusing more on one or the other at various points. We were, however, forced to make the distinction operationally in order to analyze satisfactorily the sources of thought and action in a learning environment. In the first place, Kaminsky, of CCEP, found that variations in autonomy and heteronomy of self and other, the "self" and "other" construed as teacher and pupil in this case, did not fully discriminate between different teacher roles as observed by us in Follow Through learning environments. She has added an objects-related dimension to the first two, to create a three dimensional space of self, other, and objects, in which she is attempting to locate different teacher and pupil roles. The connection of objects to objectivity was suggested to us particularly by Heider's formulation of the relationship

of person to other and to task or objective,[5] i.e., we noticed in this the "object" nature of the objective of an interpersonal relation as a referent which has some independence of both self's and other's present thought and action. Finally, Werner and Kaplan's analysis of the relationships among four terms, self, other, object, and symbol,[6] has led us to disginguish between material and symbolic objects, and the objectives and objectivity associated with each, as well as between these and what we shall distinguish as reflective objects. In order to clarify these distinctions, however, it is necessary to introduce here a more fundamental distinction that we are making.

We have already referred above to "thought-and-action" and to "thought-alone." What is involved here is a distinction between the behavior order of a learning environment and the reflective order, or, more precisely, orders, of the environment. The behavior order is one or unitary, in that thought and action are continuous in behavior. The reflective orders are multiple, in that thought-and-action events in the behavior order can be cognized from a virtually unlimited number of points of view by its human inhabitants. That the reflective orders are defined <u>as orders</u> signifies, heuristically, that we want to try to infer patterns in the reflective order, and to infer the interaction of these patterns with the patterns we observe in the behavior order.

In the behavior order of a learning environment, everything that has material can be a material object, even persons, when their impersonal properties are in focus. In addition, some of these material objects are also symbolic objects, i.e., they carry symbolic information that is publicly accessible, for example, books, but not (unlabeled) pencils nor Cuisenaire rods. Our including books in both categories is necessary

to recognize that their nonsymbolic, material properties also figure in behavior. Both material and symbolic objects vary in the specificity of the operations that can be performed on them, and in the specificity of the information they feed back to the actor. In a sense, therefore, objects also vary in their autonomy and heteronomy in relation to others in the environment, though to label their properties in this way would miss the nonsubjective and non-intersubjective significance of the nature of objects and their relations to others.

In the reflective order of the learning environment, the direct "objects" are symbols, or symbolizations of referents in the behavior order, and as such are accessible to observation only when self or other communicates his thoughts, i.e., when the thoughts are translated into events in the behavior domain. It is significant that Werner and Kaplan analyze at length what they call the "autonomy" of symbols, i.e., the independence of meaning that symbols acquire through their being publicly, i.e., objectively, defined. Objectivity, then, means generally the self's orientation to the public or impersonal properties of a symbolization or a referent of thought and action, i.e., those properties which are independent of the immediate thought and action of self and other.* Objectivity, in this sense, seems to be the parameter of learning and development that the tests of the Eight Year Study most directly relate to. Indeed, objectivity is the basic parameter that objective tests generally are concerned with, i.e., the self's orientation to various public systems of meaning. The prediction of a learner's probability of being able to accomplish

* This formulation by no means denies that the meaning of a relationship between self, other, and object is personally and interpersonally contructed, It asserts, rather, that the construction must assume the givenness of properties of the object, or regularities in self's and other's relationships to the object, in order to arrive at stable self-other-object relationships.

objectives in a specific area of thought and action, therefore, is made validly in part, though only in part, on the basis of relevant tests of specific objectivity.

The ability to perform a task "independently" by objectively defined criteria is often confused with autonomy. However, this is sometimes more properly recognized as automatous behavior, or the behavior of an automaton, to the extent that self's personally differentiated (as opposed to merely internalized) criteria do not govern his thought and action.

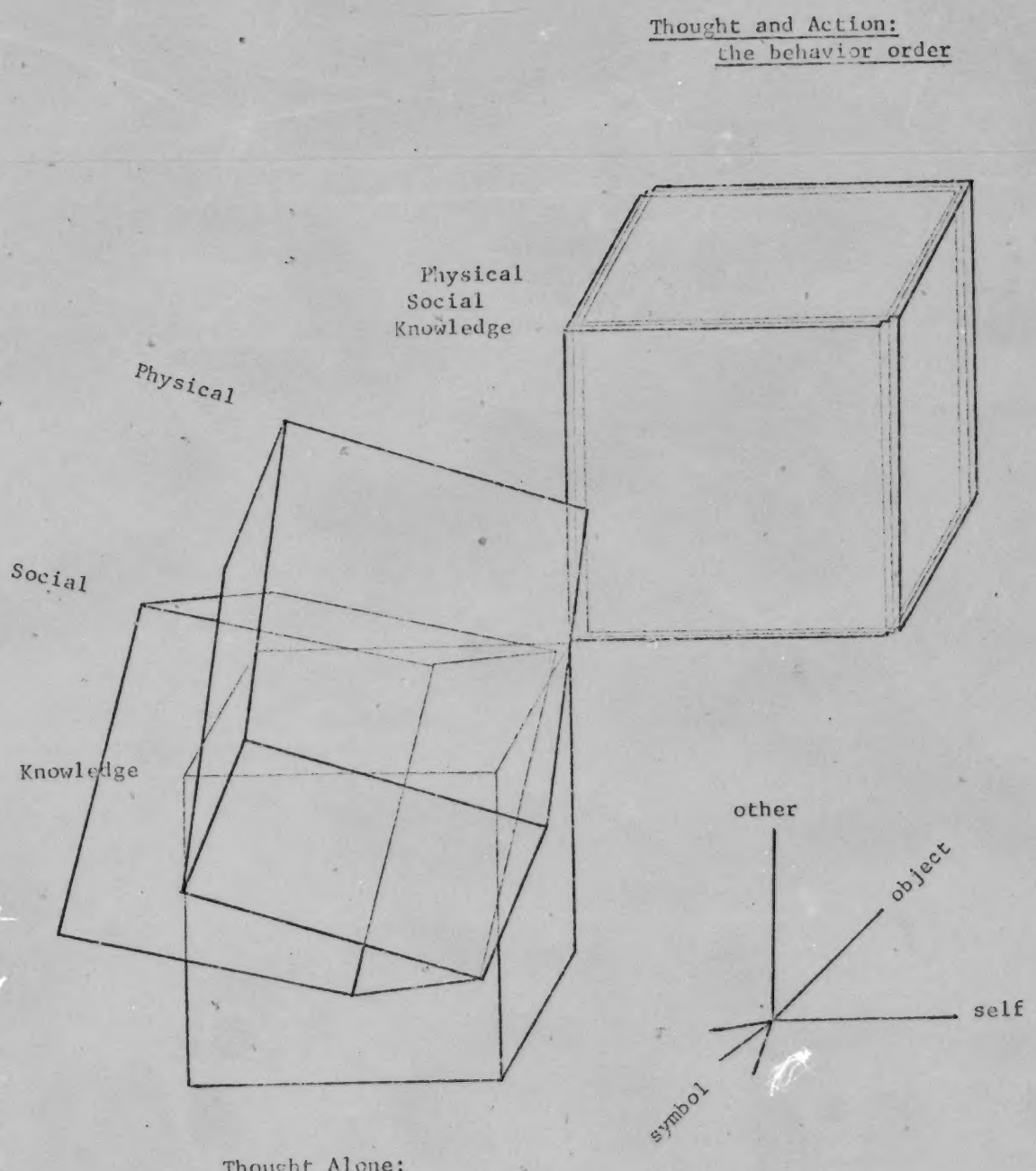
The developmental nature of the general parameter of objectivity can be inferred from Werner and Kaplan's ontogenetic analysis of symbol formation, or from Piaget's genetic analysis of assimilation and accomodation. For us, the developmental nature of objectivity is most clearly indicated by Van den Daele's schematization of the stages of ego ideal development, which will be discussed below in relation to CCEP's interviewing of learners.

13. Integration, the fourth and final of the parameters of learning and development that we have identified, can be defined as a harmonious relationship, both in thought and in action, of self with others and with objects, or of self with self as object of self. "Objects" here is used in all the senses recognized above. Like autonomy, heteronomy, and objectivity, integration can occur in varying degrees. CCEP's first recognition of integration as a parameter was largely intuitive, i.e., we associated H.H. Anderson's concept of integration with the characteristics of learning environments in which the autonomy of both teachers and learners was observed to be the highest.[7] At that time, we followed Anderson in labeling the opposite pole of the construct "dominative" or "domination." Since

then, however, it has made more sense to construe the opposite pole as disintegration, allowing that the primordial state of a self-other-object relationship may be unified in the sense that there has been no differentiation, and that disintegration refers to a relationship among already differentiated terms. Dominance can then be more properly understood as a relationship between self and other and object in which one of the terms de-differentiates one or both of the other terms, i.e., does not orient to their internal differentiation except in relationship to its own criteria, or does not recognize the autonomy of any in the relationship but itself. In the most general sense, self can be dominated either by other person or by object, by the latter, for example, in a sense that Marx especially addressed himself to.

Both the state of the relationships within the thought and action of a single individual, and the state of the relationships in a situation that involves more than one individual, can be characterized in terms of the degree of their integration. This is the key to establishing the relationship between the program and the learner levels of a learning environment, not only for integration per se, but for autonomy, heteronomy, and objectivity, as Anderson's research in a number of ways recognized. CCEP's approach to the description of learning environments at the program level is consistent with, though not identical to, Anderson's approach. One of the ways in which CCEP's approach goes beyond that of Anderson and his successors, e.g., Flanders, is its attempt to attend more systematically to the whole complex of variables that constitute a learning environment. (See Figure 2.) For some of our purposes, we have distinguished between a knowledge, a social, and a physical domain of the learning environment, in both the behavior and the reflective orders. The distinction is psycho-logical,

Figure 2.


Thought and Action:
the behavior order
Physical
Social
Knowledge
Physical
Social
Knowledge
other
object
self
symbol
Thought Alone:
the reflective order

and refers to the observable fact that three basically different types of criteria are used to make judgments in a learning environment (or indeed in all human environments).[7a] Knowledge judgments are those made with reference to truth criteria, or criteria of correctness in the sense that applies to logical operations on information that produce a predicted result. Social judgments are those made with reference to interpersonal criteria of fairness, justice, or right and obligation, including the normative but pre-ethical criteria of "right" or "correct" that are applied to interpersonal conventions. Physical judgments, finally, are those made with reference to criteria of bodily satisfaction or affect, or conversely, the aptness of physical actions to produce an effect on an external object. Ethical judgments of the second form have been analyzed by some philosophers as constituted of components of the first and third forms, i.e., as having both knowledge or "cognitive" and physical or "affective" components.[8] Aesthetic judgments might also be analyzed in terms of their having both knowledge and physical components, but with reference more to self-object than to self-other relationships. This somewhat clarifies the significance of the familiar use of the term "affective" to refer to "non-cognitive" objectives and effects in education, but the distinction between knowledge, social, and physical domains seems more useful to us, in part because it does not arbitrarily separate the cognitive from the affective in behavior. When a judgment involves a complex of knowledge, social and physical criteria, it can be so recognized.

Much of behavior is not, or is not simply, the consequent of acts of judgment, but can be explained more validly in terms of regularities in the opportunities and constraints that are afforded to behavior in the

environment in which it is manifested. This is the basic standpoint of human ecology, and it has played an important part in the development of CCEP's strategies for describing and interpreting behavior in learning environments. It is essentially the standpoint from which Mayer, of this project, has come to focus on the regularities of child-teacher, child-child, and child-material interactions in the learning environment, and Greene and Logan, also of CCEP, have focused on individuals' behavioral involvement in child-teacher, child-child, and child-material interactions. Different degrees of involvement may be consistent with one or another set of judgments, but they do not necessarily imply that the actual judgments have been consciously made. It is all the more crucial, on this account, to notice that any given pattern of thought-and-action in the behavior order will be more consistent with some judgments than with others that might be made in each of the several domains we have distinguished, the knowledge, the social, and the physical. In other words, a behavior pattern that might be reflectively regulated with primary reference to the criteria of one domain might have unintended or unwanted consequences from the standpoint of the criteria of the other domains.

Integration was defined above as a harmonious relationship, both in thought and in action, of self with others and with objects, or of self with self as object of self. It can now be defined more specifically in several ways. First, integration at the behavioral level of an individual's thought and action refers to the harmony or coordination of self's interactions/ with others, objects, and symbols. Secondly, integration at the judgment or reflective level of an individual's thought alone, when self has distanced himself from other or object to invoke and apply criteria, refers to the harmony or coordination of the judgments he makes. Thirdly, the integration of the several individuals

in an environment, specifically a learning environment, refers to the harmony or coordination of the knowledge, the social and the physical judgments they make in the environment. And fourthly, the integration of the several individuals in an environment refers to the harmony or coordination of their autonomy, their heteronomy, and their objectivity. "Harmony and coordination," in all of the above statements, have a close relationship to Piaget's "equilibrium." However, they are meant to imply the affective component more strongly than Piaget's use of equilibrium.

All four of these basic parameters of learning and development are, again, being defined operationally in relation to CCEP's several systems for the coding of observations and interviews.

14. To have established that autonomy, heteronomy, objectivity, and integration are basic parameters of human learning and development is not the same as determining how they might be employed as criteria for the evaluation of an educational program's effectiveness in fostering learning and development. This requires intensive analysis of the nature of the parameters and extensive research on their various manifestations in learning environments. CCEP's 1970-71 data collection in sponsor-selected classrooms from three of the Follow Through programs and a comparison program provides the basis for a first, substantial, but necessarily incomplete approach to this task. While we anticipated only faintly the broad outlines of the problem that have emerged to this date, we did anticipate that the problem would be complex, and thus we collected data that lends itself to some of the analysis and research that we can now see is required. New data collections are being carried out this year, and the Follow Through evaluation plan that results from all of these efforts can itself be con-

strued as a further research design. The purpose of the propositions that follow is to lay out some of the assumptions that we think will be most valid and useful for the work that must be done from the present on. These propositions are construed as assumptions because they enter so fundamentally into our frame of reference that, in their broadest interpretation, they cannot really be said to be testable within the system they form. On the other hand, more specific statements of these assumptions can be formulated as hypotheses to be tested empirically, and the final sections of this argument will do so.

15. First it is necessary to clarify in what sense autonomy, heteronomy, objectivity, and integration can be construed as parameters of human learning and development. For this purpose, let us present a more complicated, though still idealized model of the four-dimensional space in which we are casting the general problem. (See Figure 3.) This model is abstracted from the model in Figure 2., and does not distinguish between the knowledge, the social, and the physical domains that can be recognized for special purposes. To put it differently, the model would apply whether we were discussing thought and action from the standpoint of the judgment criteria of any one or another of those domains.

The model in Figure 3 suggests that, both theoretically and empirically, self, other, object, and symbol are central tendencies in a total field of events. The dashed lines that concentrate around each represent channels of these events. The autonomy of self and other, and the proto-autonomy of object and symbol, can be defined as the capacity of each to influence the channels in which nonrandom activity, or events that have direction in time, transpires. The heteronomy of self and other, and the proto-heteronomy

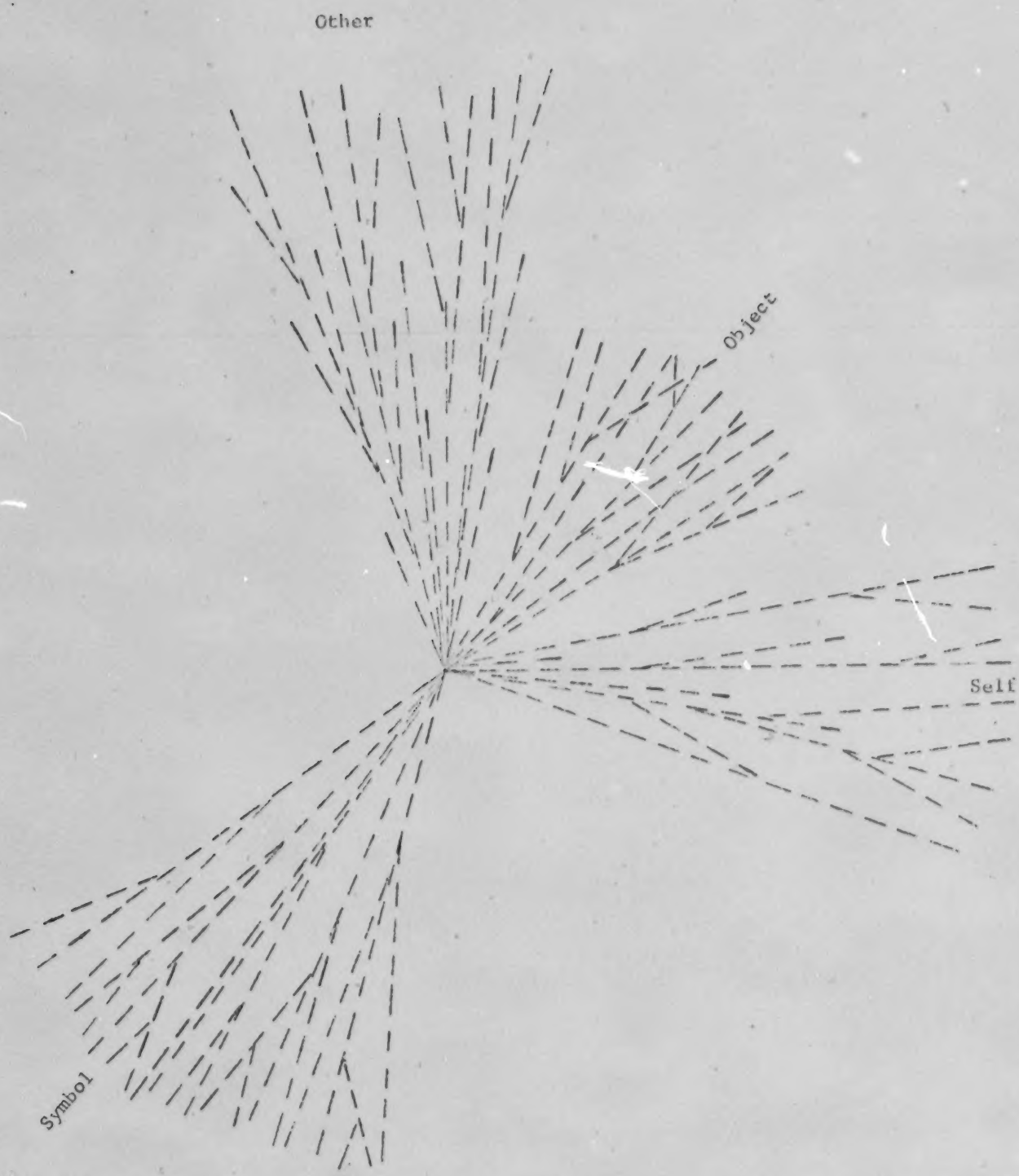


Figure 3.

of object and symbol, can be defined as the capacity of each to orient or attune to the channels of each of the others, i.e., to give/and receive feedback that relates to the activity of each, or one or another, of the others. The proto-heteronomy of objects is thus related to, for example, the "responsiveness" of a material environment to self or other. The proto-heteronomy of symbols is related to their contextual properties, or the feedback they provide when self or other associates and transforms symbols. The objectivity of object and symbol, can be defined as the capacity of each to resist the distortion of feedback from each of the others that might result from assimilation to its own event tendencies or channels. This proto-objectivity of objects and symbols, especially of objects is tantamount to the sum of their proto-autonomy and heteronomy, whence the name "objectivity" for this capacity.

Some of the lines representing channels for self, other, object, and symbol have been branched to indicate that they become increasingly differentiated with time. Some of the lines for self and other have been discontinued to indicate that they are abandoned or displaced as other lines or channels become more differentiated in time. This latter observation might be thought to apply to objects or symbols as well, but the principal of conservation maintains that their channels are preserved so long as the object or symbol remains "the same." To put it differently, when this principal no longer obtains, we tend to say we are dealing with a different object or symbol, whereas self and other are held to be the same even when some of the channels of their activity are discontinued.

Our frequent assertion that autonomy, heteronomy, objectivity, and integration are not only dimensions of behavior in a learning environment,

but also parameters of human development, is based largely on inferences from developmental psychology. In addition to Piaget and Werner and Kaplan, we have found Leland Van den Daele's work very instructive in this regard. Van den Daele has been trying to establish theoretical and empirical correspondences between the stages of ego development variously identified in his own earlier research[9] and in the research of Kohlberg,[10] Loevinger,[11] Hunt,[12] and others. He has recently cast these various stages into a 12 stage schematization that, allowing for the fact that Van den Daele is still engaged in working it out, can be represented crudely in the following way:

The Stages of Ego Development
as schematized by Van den Daele

	Self	Instrumental	Objective Order
Preoperational	1 egocentric	2 contiguous associational	3 categorical
Concrete Operational	4 hedonistic avoidant	5 pragmatic opportunistic	6 naive normative
Formal Operational	7 intentional relativism	8 hierarchical orientation	9 societal values
Advanced Formal Operational	10 nature of man	11 ideal role-taking	12 philosophy of value

These stages have to do essentially with the structure of a person's response to preferential questions of the form, "Why should you (or someone else) do that?," or, "Why do you (or someone else) like that?" The structure can be applied to moral, occupational, or virtually any social content. Its application to educational content is the focus of the development, by Roberts and his colleagues in CCEP, of an interview to ascertain pupils'

ego norms as learners, or the Pupil Role Interview. (See Chapter IX.)

Let us interpret the row and column structure of this matrix in a manner that seems to be consistent with both our own and Van den Daele's thinking. It was Van den Daele who first suggested that autonomy might be especially associated with stages in the first, or self oriented, column. He suggested at the same time that integration, as we were thinking of it, seemed to relate particularly to the third, or objective order, column of stages. We had not at this time differentiated heteronomy and objectivity within integration or from each other, but as we did this, working from other directions, they seemed to relate especially to the second, or instrumental, column of stages. The coding criteria used for recognizing second column responses all have to do with orienting to the requirements of other persons or the requirements of objects, tasks, or systems, in each case as distinguished from, and potentially counterposed to, the first column requirements of self. The objective order, then, integrates the requirements of self and other / and object. It is objective, not literally in being oriented to objects, but in the more generalized sense of a set of rules, norms, and values that are projected beyond the requirements of self and other. The objective order is thus perceived to have an independent status, which can be appealed to to mediate the conflicting claims of self and other, or of self, other, and object from the instrumental point of view.

The different rows or levels of ego development have to do essentially with the complexity of the relationships that ego rationalizes with primary reference to self, other and object, or objective order. The coding criteria for recognizing this level of the complexity of ego's thinking are the Piagetian criteria used to distinguish pre-operational, concrete operation, formal operational, and post formal (or multi-systems)

operational thinking. It is tantalizing, in this regard, to think of the three columns as especially related to assimilation, accomodation, and equilibrium respectively, since this would be consistent with the Piagetian dynamic account of how ego's thinking develops. Van den Daele's interpretation stresses an original emphasis on self, the turning to other to solve problems that self cannot solve alone, the turn to an objective order to resolve conflicts between self and other, the breaking away of the self from this order to define ego in more complex terms, and so on. To give some perspective on the distribution of the stages in the American population, Van den Daele hypothesizes, and has some evidence, that 3 is the modal stage for first grade children, 6 is the modal stage for adults, and 7 is modal for college students in American society today.

Several comments should be made about the significance of these stages. First, they are stages in ego's rationalization of ideal conduct. They do not necessarily correspond to the actions he takes. Kohlberg has obtained some much discussed evidence that his stages of moral development, which relate to Van den Daele's, discriminate between delinquent and non-delinquent populations,[13] but a first, not entirely cynical caveat to make to this would observe that persons capable of rationalizing their conduct in more complex ways might include persons whose actions were equally immoral by comparison to delinquents, but whose rationalizations served to keep them from getting caught. Kohlberg has argued that another factor is involved, the person's ego strength as distinguished from ego ideal. The problem is still more complicated, involving, for example, individuals' pragmatic adaptation to their institutional surround, a question that is related to, but not identical with the décolage question noted again below. Without trying to resolve this problem of the exact nature of the correspondence

between ego ideals and conduct, let us note a fundamental reason why one expects to find some relationship. Piaget's, Mead's, and Van den Daele's theories all assert that the structure of thought-and-action, or behavior or conduct, is not merely the consequent of the structure of thought-alone, or thinking, but is equally the cause of the structure of thinking. It is <u>because</u> self has to coordinate his behavior with other and object that he is driven to rationalize his behavior. Thus one expects ego-ideal development to reflect different aspects of the environmental context of a person's development from those aspects reflected in intelligence, as conventionally defined, though these factors might interact in various ways.

Our second comment is that a person's rationalizing ideal behavior with basic, or ultimate, reference to the criteria of one stage or another by no means signifies that he refers to these criteria alone. In the coding of ego ideal interviews, one <u>expects</u> a person's statements to distribute around a modal stage, specifically to include statements one stage above and a stage below the modal stage of the responses. This means that at any stage beyond the first a person would be expected to make some statements that were more oriented to self, some more oriented to other or object, and some more oriented to objective order. Returning, then, to the question of the relationship of thought to conduct, there is all the more reason to expect an inexact relationship, and particularly to expect that a person might be continually orienting in turn to self, to other and object, and to objective order to equilibriate or integrate the conflicting claims that are made on his conduct.

Third, some of our most interesting and difficult questions will have to do with how a teacher integrates conflicting claims in a learning

environment, and how, if the environment has been designed with reference to a set of criteria that are more complex than those typically rationalized by the learners, the teacher mediates between his own rationale and the rationale of the learners. This latter question, of course, can be asked in the opposite direction, where, especially in the case of older learners, it is possible that the learners' ego ideals are more advanced than the ideals that entered into the design of the environment, or that are used to interpret the environment to the learners. This, then, is a restatement of the décolage question recognized at the outset of our argument.

We have gone to these lengths for several reasons. The first is to obtain the further clarification of autonomy, heteronomy, and objectivity that the above paragraphs attempt to convey. The second is to make a distinction that will be important throughout our study, between the role orientation of self to certain channels of others -- whether other person, object, or symbol -- which is prescribed for interaction with these others, and a more ample orientation to the channels or properties of others. Third, we have gone to the above lengths because we have found it necessary to deal with the question of the determination ofhuman activity, i.e., the question of determinism, in order to interpret educational programs that obviously hold varying positions on this question themselves.

16. Let us address the role question before turning to the question of determinism. A role can be defined as the expectations that cluster around a socially defined position, specifically a position in the learning environment. Let us suppose that self is a learner, other is a teacher, and object is a teaching machine and program. Suppose further that the learner is expected to control the pacing of his interaction with the machine, though

this is significantly constrained by the step structure of the machine program, and that he is expected to control the occasions when learner-teacher interactions are initiated, but that his initial request for help from a teacher typically results in a series of questions from the teacher that are intended to get the learner moving again in the program channel. (a) It is expected that the overall control of the situation for a given learner is more shared in this case, between learner, teacher, and teaching machine, than when the role of the learner is recitation respondent with no material objects involved. Indeed, if one observed that the teacher was always involved didactically with one learner or another, questioning most of the time, and that a given learner was in control of his pacing when the teacher was interacting with a different learner, then the sum of the autonomy in the environment or setting as a whole would be greater than in the recitation situation. In other words, control of the learning environment is not just a zero-sum game. (b) The expectation for heteronomy on the part of the teacher in the teaching machine situation is increased, i.e., her relationship to each learner is expected to be more clinical, or adapted to the learner's thought and action. Whether or not heteronomy is also expected to be increased for the learners depends on whether or not they are encouraged to interact with one another in the solution of the given task. Presumably, the learners are discouraged from this interaction in the teaching machine situation. (c) The teaching machine adds to the environment an object source of task criteria in addition to the criteria that teacher and learner supply to each other, and thus the objectivity is expected to be more distributed and, at a given time and over time, is expected to be greater than the sum of objectivity in the recitation situation. That this is not just an academic point is confirmed by the

finding, by Hess,[14] for example, that learners tend to have more confidence in the answers supplied or confirmed by computer assisted instruction in arithmetic than in the answers supplied or confirmed by teachers directly.

The above example has been couched in terms of expectations for autonomy, heteronomy, and objectivity, and thus partially describes the roles of the learners, the teacher, and the teaching machine in the situation. Now let us ask which of the event channels of the learner, the teacher, and the machine, are expected to be activated in this situation. Consider the machine first. An individual might learn a lot by taking the machine apart and trying to understand how it was constructed. He is expected not to do this, however, i.e., not to orient to certain, or many of its objective properties. Analogously, an individual who is expected not to build with Cuisenaire blocks is constrained from orienting to certain of their properties. This same individual may also be expected not to decorate his teaching machine, or not to summon the teacher by running up a flag he has made, in short, not to activate or express certain channels of his thought and action that, to the extent that they are central tendencies of the person, we might speak of as his personality. Again, he may be expected in this situation not to give feedback to the teacher in channels that relate more directly to the teacher as person, for example by playing to the teacher's sense of humor, which might, to say the least, be discouraged in the situation. Whether or not these constraints are functional from the standpoint of focusing thought and action on the task at hand can be examined empirically. Particularly, however, when the learner does not accept the task as his task, and to some extent even when he does accept the task, we can recognize in the situation the potential conditions of alienation from self, other, and object. It is for this and allied

reasons that one wants to examine not only the autonomy, heteronomy, and objectivity that are expected in relation to a given task, but how the boundaries or criteria of the task are defined in the interaction of the persons and objects concerned, and then how both these sets of expectations are matched or not matched by performances. Each of CCEP's several observation and interview analysis systems can contribute to an understanding of these questions.

17. We will not at this point recognize and try to deal with the varying positions of different programs vis-a-vis the determination or the voluntariness of behavior. Our own position can be stated quite straightforwardly. (a) Live organisms are always active, not only at the submolecular level, which is true of any physical entity, but in internally contained and externally directed transactions at the systemic levels of its molecular organization. It is, in fact, this continual transaction at systemic levels of its organization that distinguishes the organism from a nonorganismic entity, i.e., an entity that is not constituted of organs. The question of what starts and stops systemic activity in general is thus quite appropriate to address to nonorganismic entities, for example, machines, and equally inappropriate to address to living organisms. The question to ask of organisms is what channels activity, or what determines the direction and intensity of the transactions among the parts of the organism or between the organism and its external environment. (b) Behavior <u>is</u> the systemic or organismic activity of the organism. Behavior is often more conservatively defined as that activity of the organism that is transactional with the external environment, and, in fact, this is approximately the convention we have observed in distinguishing between a behavior order of

thought-and-action and a reflective order of thought-alone in the learning environment. In other words, we have elected to describe behavior in terms of that which is external or most publicly accessible, and to make more intersubjective inferences from this to a subset of internal activities called reflection, or the conscious matching of the referent of a thought with internally represented criteria. (c) An organism functions so as to maintain itself. This functioning can be characterized nonteleologically as assimilation and accomodation in relation to both internal and external phenomena. The process results in the multiplication and enlargement or diminuation of parts that perform a given function, and in the differentiation and integration of the functions performed by the parts. Behavior, in the most inclusive as well as the conservative sense of the term, is both internally and externally determined. It is externally determined to the extent that external (or foreign) entities or events constrain the channelling of behavior. It is internally determined to the extent that external entities or their behavior-events do not constrain the channeling of behavior, or to the extent that the direction and intensity of the organism's transactions within the internal or with the external environment at a given moment are more consistent with the organism's past transactions, that is, consistent with its own history, than with all the transactions of the entity or entities in question within or with their environments, that is, consistent with their own history. The principal of explanation that is invoked here is parsimony. The postulation of both internal and external determinants of behavior requires <u>fewer</u> inferences from the starting observation-definition of the differences between organismic and nonorganismic entitites to account for the regularities of events that are associated with each, than to assume that their transactions are unilaterally

determined. Indeed, the postulate is also more parsimonious for the explanation of transactions among nonorganismic entities alone, and is commonly assumed as such, so that we might have started from this point in constructing the argument. (e) The differentiation and integration of the human organism's behavior is multiplied by symbolic or proto-symbolic behavior, that is, by behavior that directly associates activity at a given moment with activity at past moments in the human's history, with the effect that more of the human's past can be related to a present moment than the past of the nonhuman entity. It is in this sense that a human's activity is generally more self determined than the activity of any other entity, and that a human's contribution to the determination of a specific transaction is proportional to the degrees of freedom in a situation, both in the absence of constraints on the human's relating his past to the present, and in the differentiatedness of the past that he can bring to bear on the present. (f) The term "spontaneous," in its ordinary or dictionary usage, is consistent with the position stated here, so long as "proceding without external force" is not construed as excluding all external constraints. The term "voluntary," at least in some of its uses, suffers the liability of suggesting that behavior can be altogether discontinuous, when it is the greater continuity of behavior with an organism's own past than with the past of the entities it relates to that constitutes self-determination. One does want to recognize that discontinuity with a present situation which the organism, especially the human, can effect by representing alternatives to a given situation, through proto-symbolic and symbolic behavior. This representation of alternatives to the present directs decisions, in much the same way that a genetic code directs decisions, but with a different, vastly greater complexity. The behavior of an organism

can thus be not only continuous with its own past and discontinuous with a present situation, but it can be continuous with an anticipated future situation predicted at a point in time and viewed retrospectively from a later point in time. The flexible channeling of an organism's activity from the past through a present and into the future can be observed in its behavior, and can be explained most parsimoniously, and still not teleologically, in terms of the organism's representational anticipation. (g) The term "voluntary," like the related term "will," also connotes effort, which we interpret simply as the energy affect attendant to the intensity of self's channeling of his activity. Involvement, which we have previously related to integration, reflects this concentration of energy in self selected or self oriented-to-other-and-object channels.

This discussion of the determination of behavior has been necessary to our argument on many counts, for example, to explain our not being content to examine behavior merely in terms of external reinforcement,[15] and our acceptance and interpretation of Barker and Wright's category of spontaneous, as distinguished from instigated and pressured, initiations, to designate certain transitions in the stream of behavior.

18. What we have said so far has been frequently illustrated in terms of learning environments, but much of what has been said is not peculiar to learning environments. In particular, the concepts of autonomy, heteronomy, objectivity, and integration, and the related concepts of self, other, object, and symbol (the instrument of objective order), can be applied to the analysis of thought and action in any human environment. Indeed, their power derives from this, for it is in this way that we can eventually study, theoretically and empirically, the relationships of patterns of

thought and action in learning environments to patterns in other environments that the learners participate in, either in the present or at some time in the future. Let us now make several observations that are more specific to learning environments, especially to classrooms as these are found in the schools today.

The first observation is so simple that we were not fully aware of its significance until we were well underway in this study. The principal purpose of a learning environment is learning. This purpose can be subverted, it can be enhanced in many ways, it can be construed broadly or narrowly with regard to knowledge, social, and physical learning, but teachers and pupils are basically agreed that schooling, especially, is supposed to result in learning.

How is this different from the expectation that one can learn in any environment? It is different in that learning is the principal, rather than a secondary attribute of the roles, or the expectations that cluster around the positions of teacher, pupil, and material in the learning environment. How the child interprets these roles is itself a crucial aspect of how he is learning to learn in school, and how widely he applies his interpretation, to a narrow or broad range of things that he expects to learn, is also important in his learning to learn. Roberts' Pupil Role Interview is especially designed to answer the first of these questions. It will yield information that relates to the second of the questions, but we anticipate that we may have to develop somewhat different interviewing strategies to be able to deal with the question comprehensively.

A further look at this expectation that the purpose of school is learning brings us to one of the main sources of potential conflict in the classroom. It is natural for children, especially children, to seek and

construct knowledge. At the same time, the selection or focus on what is to be learned in school, and the pace of learning that is expected, vary significantly from the selection and pacing in the environments of children outside of school. Even the most child centered teacher must contend with these knowledge expectations of schooling, and it would be a rare teacher who did not communicate to the children her concern about these expectations. The first source of potential conflict, then, is not between learning and not learning, but between children's impulses to learn and teachers' impulses to teach, or to direct their learning in expected channels.

A second source of potential conflict in the classroom derives from the observed fact that the number of children collected together in almost any classroom is substantially larger than the number of children one finds collected together, for sustained intervals of time, in the environments outside of school. It is on the school playground itself that one is most likely to encounter like collections of children. Even on the playground, however, the children are not likely to be found functioning in a collectivity the size of the classroom, except, significantly, when an adult has organized their play. How does this matter? One can point to the possible function of classroom size, or of children's having to learn to relate to a collectivity of this size, for the socialization of the children to future environments or settings. This is what Dreeben[16] and other sociologists have done, and it is, in fact, a line of inquiry that we have intended our concepts to apply to at some point. However, if an analysis of this sort simply assumes, as Parsonian analysis is prone to do, that the school environment <u>is</u> functional for such a purpose, then it overlooks the kinds of social and physical conflict that are potential in the classroom, and the

question of what solutions of these conflicts are more functional or less functional for the learning purposes of the classroom itself.

Just as it is natural for children to regulate their assimilation and accomodation of knowledge, so it is natural for children to regulate their social and physical assimilation and accomodation, assuming only that they have just survived to the age of schooling! In the classroom, however, the sheer size of the collectivity, and, let us add, the nature of the materials as public property, presents a set of conditions that, again, constrains the most child centered teacher to counter the children's tendencies with a set of her own. Now, when one adds to this the expectations of parents and others for the school's socialization of the children to anticipated future roles, the potential for conflict is very great indeed. It is in this light that one sees best the application to schools of Gouldner's general observation, that in every organizational setting there is likely to be a conflict between those persons who have been assigned the greatest autonomy, and those who strive to be autonomous, which is everyone.[17]

From the standpoint of either of these sources of potential conflict in the classroom, it is naive to think of good or exemplary classrooms, by any set of criteria, as those in which there exist few or no conflicts. Rather, they must at the least be classrooms in which a way of regulating the conflicts has been successfully established. It is, then, the consequences of these regulatory patterns that ought to be examined. Moreover, one wants to analyze the interaction between the knowledge and the social and physical systems of regulation in the classroom. It is this interaction that lies at the heart of the so-called "hidden curriculum."

Three basic sets of questions seem to us at this time to be central

to the study of these regulatory systems. The first set has to do with who defines, who invokes, and who applies the criteria of a judgment that is made in the classroom, whether the judgment is of the knowledge, the social, or the physical form, or is a combination of these forms. The second set of questions asks how complex, or how differentiated and integrated, the knowledge, the social and the physical conditions of classroom behavior are. Finally, the third set of questions pertains to the adequacy of the solutions of the tasks and issues in the classroom, or what we have characterized as the adaptedness of the solution of a task or issue to self, to others, and to objects. We will define a task as the goal or objective of a behavior stream episode or episode phase, and an issue as a disagreement between two or more individuals.

19. We will now state several fundamental hypotheses to illustrate the effects we expect from the interaction of the knowledge, the social, and the physical aspects of classroom behavior. These represent restatements of the hypotheses that were more crudely stated in CCEP's Second Progress Report.

i. To the extent that a teacher attempts to control the definition of the knowledge criteria and conditions of a task, the teacher will also attempt to control the definition of the social and physical criteria and conditions of the task.

For example, it is unlikely that a teacher will stipulate that a given set of addition performances be mastered by a pupil, and not also stipulate how the pupil can work with other pupils and the time limits within which the task must be pursued. How specifically the performances are stipulated will be related to how specifically the social and physical conditions are stipulated.

ii. A teacher's manifest expectations for who should invoke and who should apply criteria of judgment in a given classroom setting will be consistent for knowledge, social, and physical issues in the setting.

For example, it is unlikely that teachers will manifest expectations that pupils regulate among themselves the construction of a model of a city, and not also expectations that the pupils regulate among themselves disagreements about the division of labor for the task or about the physical coordination of their actions.

iii. Pupils' manifest expectations for who should invoke and who should apply criteria of judgment in a given classroom setting will be consistent for knowledge, social, and physical issues in the setting.

For example, it is unlikely that pupils will manifest expectations that a teacher will monitor regularly their social and physical conduct in a setting, i.e., make frequent unsolicited judgments on these aspects of their activity, and not also expectations that the teacher will monitor regularly the knowledge aspects of their activity.

iv. The complexity of the knowledge conditions of a setting will be correlated with the complexity of the social and physical conditions of the setting. This means that the differentiation of the knowledge components of a task, and the possibilities for relating the knowledge components, will be correlated with the differentiation and relational possibilities of the social and physical components of the task.

For example, it is unlikely that systematic or patterned thought and action, by Guilford's criteria, will be exhibited by pupils in a recitation setting in which the pupils are essentially undifferentiated from each other in the social and physical conditions of the task, including their not inter-

acting directly with each other and their not having objects to manipulate in relation to the task.[18]

v. The autonomy, heteronomy, objectivity, and integration that are required/and possible in a setting depends upon the complexity of the setting.

For example, it is unlikely that pupils' activity in art will be as differentiated by personal criteria when each judges his work privately as when each submits his work to the personal and shared judgments of others, for, say, an exhibit or a collective project such as a mural. In choosing for this example the autonomy of an artistic activity we have deliberately selected the most problematic or controversial case. The relationship of heteronomy, objectivity, and integration to the complexity of a setting, or even of autonomy when one considers the dependence of a solution on each individual's differentiated performance, should be more readily observable.

vi. The probability of an individual's fulfilling the requirements of a setting depends upon his interpretation of the expectations in the setting, as well as on his performance capabilities and on the feedback available to him in the setting.

For example, it is unlikely that a pupil who does not expect a teacher to accomodate to his requests for help will be able to write effectively in a composition setting that depends upon the pupils' asking for help.

vii. To the extent that the objective possibilities in a setting are at variance with a teacher's expectations for pupils' behavior in the setting, the pupils will orient to the objective possibilities, and the autonomy of the teacher and the pupils will be polarized.

For example, if manipulable materials are available to the pupils, and the teacher expects the pupils to attend to her and not to the materials, conflict will result. The conflict will continue until the expectations and the objective possibilities are made consistent.

No doubt, these hypotheses will have to be made more specific in order to be tested, and many other hypotheses can be generated from our basic concepts. Our fundamental purpose at the present time is to develop CCEP's observation and interview coding procedures so that, in time, hypotheses of this character can be fully explored.

FOOTNOTES

[1]This and the above proposition are adapted from Erwin K. Scheuch, "Social context and individual behavior," Quantitative Ecological Analysis in the Social Sciences, ed. by Mattei Dogan and Stein Rokkan (Cambridge: MIT Press, 1969), pp. 133-155. "Program and learner levels" in this and the previous statement refers to levels at which one describes and analyzes phenomena in the learning environment, not developmental levels. For example, teachers' expectations for pupils, and pupils' expectations for teachers, represent program and learner levels respectively, at least to the extent that the teachers' expectations are common to a given program.

[2]Lawrence Kohlberg and Rochelle S. Mayer, "Preschool research and preschool educational objectives: a critique and a proposal" (paper delivered at OEO conference, May, 1970)

[3]Ibid.

[3a]John H. Flavell, The Development of Role-taking and Communication Skills in Children (New York: John Wiley & Sons, c1968)

[4]Robert Blauner, "Work satisfaction and the industrial trends in modern society," Class, Status and Power (2nd ed.: Glencoe, Ill.: Free Press, 1966) pp. 473-487.

John Kenneth Galbraith, The New Industrial State (Boston: Houghton Mifflin, 1967)

Melvin Kohn, Class and Conformity: A Study in Values (Homewood, Ill.: Dorsey Press, 1969)

[5]Fritz Heider, The Psychology of Interpersonal Relations (New York: John Wiley & Sons, 1958)

[6]Heinz Werner and Bernard Kaplan, Symbol Formation: An Organismic Developmental Approach to Language and the Expression of Thought (New York: John Wiley & Sons, 1963). We are indebted to George Rand for his pointing out the bearing of Werner and Kaplan's scheme on our own thinking.

[7]H.H. Anderson, "Domination and social integration in the behavior of kindergarten children and teachers," Genetic Psychology Monographs, 21 (1939) pp. 287-385.

[7a]The starting point for our analysis of these several logics was Charles L. Stevenson, Ethics and Language (New Haven: Yale University Press, 1944). For a related set of distinctions applied to learning environments, see Omar Khayyam Moore and Alan Ross Anderson, "The responsive environments project," in Early Education: Current Theory, Research, and Action, ed. by Robert D. Hess and Roberta Meyer Bear (Chicago: Aldine, 1968).

[8]Cf. Stevenson, supra.

[9]Leland Van den Daele, "A developmental study of the ego-ideal," Genetic Psychology Monographs, 78 (1968) pp. 191-256.

[10]Lawrence Kohlberg, "The development of modes or moral thinking and choice in the years ten to sixteen" (unpublished Ph.D. dissertation, University of Chicago, 1958).

[11]Jane Loevinger, "The meaning and measurement of ego development," Amer. Psychologist, 21 (1966) pp. 195-206.

[12]David E. Hunt, Matching Models in Education: The Coordination of Teaching Methods with Student Characteristics (Toronto: Ontario Institute for Studies in Education, 1971).

[13]Kohlberg, supra.

[14]Robert D. Hess, "The computer as a socializing agent" (paper delivered at AERA Annual Meeting, Minneapolis, 1970). Hess interprets his finding in terms of the transfer of human attributes to machines, but this does not account for why, or in what way, the machines become "more human," i.e., more objective.

[15]Cf. B.F. Skinner, Beyond Freedom and Dignity (New York: Alfred A. Knopf, 1971).

[16]Robert Dreeben, On What is Learned in School (Reading, Pa.: Addison-Wesley, 1968) Socialization is also the main focus of my own article, "The school as a model of society," Harvard Grad School of Ed. Assoc. Bulletin, 21 (1967) pp. 14-27. Thus the present criticism applies as well to this past analysis.

[17]Alvin W. Gouldner, The Coming Crisis of Western Sociology (New York: Avon Books, 1970) cf. expecially chapter six.

[18]The regularly obtained finding, for example by the use of Bloom's taxonomy, that whole class discussions tend to gravitate to the level of facts, can be interpreted in the light of hypothesis IV.

III. BEHAVIOR OBSERVATION RATINGS IN SETTING, (BORIS)

Rochelle Mayer

When I joined the CCEP staff in July, 1971, my first priority was to examine the video tapes of Follow Through classrooms already collected by the project. The objective of this undertaking was two-fold:

a. To develop a permanent descriptive inventory of the tapes to facilitate their use by CCEP staff as well as future researchers.

b. To assess the research potential of the tapes.

Part I reports on these objectives. Part II concentrates on a description of the Mayer observation coding scheme, now called BORIS (Behavior Observation Ratings in Setting), and on CCEP's plans for its use.

Part I

Development of a Descriptive Inventory of Follow Through Video Tapes

CCEP collected a total of 160 hours of video tapes in eleven classrooms. The potential value of these tapes, both for CCEP and for other researchers and educators is enormous. However, the actual usefulness of such an abundance of material can be seriously curtailed in the absence of an effective cataloguing procedure. Ideally, such a procedure would provide interested persons with the information necessary to (1) determine the utility of the tapes for their purposes, and (2) determine which tapes, or particular segments of tapes, best serve their purposes without wading through the tapes themselves.

With this objective in mind a two part record sheet for each tape was developed. The first part provides descriptive information on every three minute segment (the Time Interval Information form) and the second provides a summary description and evaluation of the entire tape, (the General

Description and Evaluation form.)

The sample record sheets (See inserts A-1, B-1, C-1), provide examples of the Time Interval Information form.

For every three minute interval the following information is recorded:

Setting characteristics. Three indices of setting are coded: (a) Teacher Role (type of regulation teacher is exerting in relation to children's activity or task;)[1] (b) Group Cluster (number of children in view;)[2] and (c) Task Variety (variety of tasks engaged in by children in view.)[3] These categories are basically analogous to the setting categories in BORIS.

Brief summary. A brief written description of the activity and behavior observed over the three minute segment is included. For example: "2 children play checkers with teacher looking on," or "6 children at table doing math worksheets while teacher rotates giving assistance."

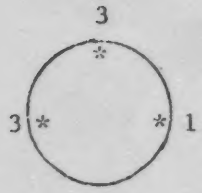
Technical quality of 3 minute tape segment. /columns headed "I" (Interactions) and "L" (Language) on Video Tape Record Form./

"I": The visual quality of observed interactions is rated as good sound (✓) or poor (x) depending on how clearly you can see children and teacher interacting (Are their faces in view?, etc.)

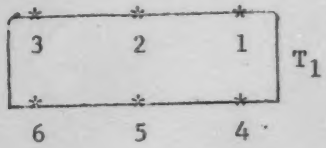
"L": The language or social quality of the tape is rated as good (✓) or poor (x) depending on the clarity of teacher verbalizations (if child language is audible -- which as a rule, it is not -- a special notation is entered.)

More specifically, the criteria for rating the technical quality of the tape is based on the feasibility of being able to code the Interaction and Communication categories in BORIS.

Pupil map. A graphic representation of the children and adults in view is drawn and each individual is assigned a number, e.g., three children at a round table looking at books:



or, children doing seatwork while teacher rotates, checking work:



Stability of child and teacher population in view. For each child and teacher assigned a number on the pupil map, a line indicating the time spent in view is recorded, i.e., breaks in the line indicate that the child or teacher left the area and then returned. Each line is also labeled with the sex of the child.

The sample record sheets (See Video Tape Record Forms at the end of section A.) provide examples of the General Description and Evaluation form. Three kinds of information are provided on the basis of viewing the entire tape:

(a) A general summary of the activities observed

(b) A general assessment of the technical quality of the tape

(c) A general assessment of the research potential and other uses of the tape.

The completion date for cataloguing all tapes by CCEP has been set for July 1, 1972.

INSERT A-1 TIME INTERVAL INFORMATION

Model Engelmann - Becker School Longfellow Location E. St. Louis

Date 3/17/71 Tape Number 7 Time 9:06 - 10:06

Meter	TR	PC	TV	Activities & Comments	I	L	x's position	x1 x2 x3 x4 x5 x6 x7 x8 x9 T1 T2
0-50	1	2	1	/ standing out work sheets - no sound	✓	X		
50-100	1	2	1	same - stops for sound & [illegible]	X	X	same	
100-150	3	2	1	x's doing stationary no sound	X	X	same	
150-200	3	2	1	same	✓	X	same	I
200-250	3	2	1	same	✓	X	same	
250-300	3	2	1	same	✓	X	same	
300-350	3	2	1	same	✓	X	same	
350-400	3	2	1	same	✓	X	same	
400-450	3	2	1	same	✓	X	same	
450-500	3	2	1	same	✓	X	same	
500-550	3	2	1	same - x7 is standing reference to subject	✓	X	same	
550-600	3	2	1	same x - 7 interaction	✓	X	same	
600-650	3	2	1	same	✓	X	same	
650-700	3	2	1	same	✓	X	same	
700-750	3	2	1	same	✓	X	same	
750-800	3	2	1	same	✓	X	same	
800-850	3	2	1	same	✓	X	same	
850-900	3	2	1	same	✓	X	same	
900-950				900 tape ends				
950-1000								
								M M M F F F F A

INSERT A-2 GENERAL DESCRIPTION AND EVALUATION

Model: Engelmann-Becker

School: Longfellow Location: East St. Louis

Date: 3/17/71

Tape Number: 7

Time: 9:06 - 10:06

Comments

This session was taped concurrently with Tape I. This tape has no sound but perhaps the sound from Tape I can be coordinated with this tape. The children on this tape are the same children on Tape IV of this series. This means that, basically, we have a complete video record of six children's day from 9:06 - 1:32. Therefore, I strongly suggest that we attempt to make this tape "codeable" - - perhaps coordinate with a child behavior stream etc. Child 1 and, to a lesser extent, child 2 are not in view continuously.

Note difference between behavior is Engelmann - Becker seatwork setting vs. behavior in Bushell seatwork setting. In the latter, the presence of the teacher as supervisor - evaluator - maintainer (plus token giver) results in no child - child interaction while absence of a teacher from the Engelmann - Becker setting produces considerable child - child "natural" social interaction.

Brief description

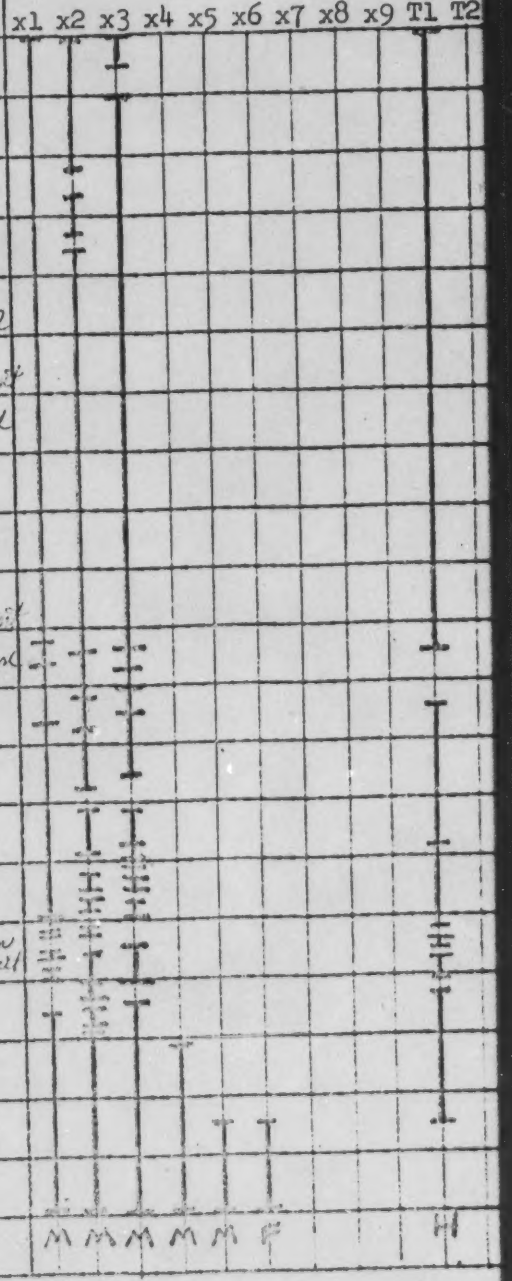
The entire tape records the children at a table doing seatwork and interacting with each other. They may be receiving teacher directions at the beginning of the tape but lack of sound makes that unclear.

INSERT B-1 TIME INTERVAL INFORMATION

Model Bank Street School Washington Public Location Tuskegee

Date 2/16/71 Tape Number 1 Time 9:00 - 10:05

Meter	TR	PC	TV	Activities & Comments	I	L	x's position
0-50	2	2	3	T + X's coaching T assists and delineates X's.	✓	✓	•x1 brown shirt AND PANTS •x2 stripe pants •x3 plaid shirt
50-100	2	2	3	same	✓	✓	same
100-150	2	2	3	same. some X movement in + out of view	✓	✓	same
150-200	2	2	3	same	✓	✓	same
200-250	2	2	3	same	✓	✓	Some hard to see X2
250-300	2	2	3	same	✓	✓	Some some X movement
300-350	2	2	3	same	✓	✓	same (sometimes hard to see. X2)
350-400	2	2	3	same	✓	✓	same
400-450	2	2	3	same	✓	✓	same
450-500	2	2	3	T + X's tasting batter. T says next to "clean up"	✓	✓	same some X movement
500-550	2	2	3	X's in + out - - T out X's taste, batter	✓	✓	Some sometimes hard to see. X3
550-600	2	2	3	Transition + girls X's to begin clean up X's in + out	✓	✓	same
600-650	2	2	3	T & X's washing dishes	✓	✓	same
650-700	2	2	3	T + X's cleaning X2 + 3 in + out of area + dishes	✓	✓	same
700-750	2	2	3	T + X's cleaning up very high interest through out activity	✓	✓	same
750-800	2	2	3	Transition to new activity Thrugs projectiles over.	✓	✓	Some - X's in and out a lot but not all X's
800-850	1	2	3	T sets up privately. X's move around + look at T's + what T is doing.	✓	✓	same
850-900	1	2	3	T + X's discuss and "read" slides. T moves + enters X's visual [illegible]	✓	✓	3 1 T • 2 • 4
900-950	2	2	3	T is new X's enter. T leaves + X's continue using [illegible] + reading	✓	✓	3 1 • 6 • 2 • 4 • 5
950-1000	2	2	3	new segment X's new + new reading [illegible]	✓	✓	same



INSERT B-2 GENERAL DESCRIPTION AND EVALUATION

Model: Bank Street

School: Washington Public Location: Tuskegee

Date: 2/16/71

Tape Number: 1

Time: 9:00 - 10:05

Comments

Good tape in a number of ways:

a. Technically good. Sound not great but can tell when teachers and children engage in verbal interaction.

b. The same three children stay in visual field most of the time. Same in and out but always return.

c. A good "Bank Street" prototype cooking activity. Children exhibit high interest.

d. Good for refining setting codes: especially Teacher Role and Task Variety.

Brief description

0 - 750 Three male children and the Head teacher engage in cooking activity. The teacher assists and directs activity. The children show high interest throughout cooking and wash up activity.

750 - end Teacher sets up projector and slides for the same three children. She and the children "read" and discuss slides. Some new children enter and the teacher leaves. The children continue reading the "lesson" without teacher assistance. Nice segment.

INSERT C-1 TIME INTERVAL INFORMATION

Model Buswell School Duckrey Location Philadelphia

Date 4/13/71 Tape Number 4 (Simultaneous with Tape 3) Time 10:44 – 11:47

Meter	TR	PC	TV	Activities & Comments	I	L	x's position	x1	x2	x3	x4	x5	x6	x7	x8	x9	T1	T2
0-50	2	2	1	x's minus workbooks T-helps sound, excellent	✓	✓	7 6 5 4 3											
50-100	2	2	1	same	✓	✓	same											
100-150	2	2	1	same	✓	✓	same											
150-200	2	2	1	same	✓	✓	same											
200-250	2	2	1	same	✓	✓	same											
250-300	2	2	1	same	✓	✓	same											
300-350	2	2	1	x 1, 3, 6, 7 same x 5	✓	✓	same											
350-400	2	2	1	x 1, 3, 5, 7 same x 6	✓	✓	same											
400-450	2	2	1	same	✓	✓	same											
450-500	2	2	1	same	✓	✓	same											
500-550	2	2	1	x 5 frustrated; see for problem solving behavior same	✓	✓	same											
550-600	2	2	1	same 590 what variables	✓	✓	same											
600-650	2	2	1	group of x's new rotating speed card	✓	✓												
650-700	2	2	1	some groups good answers [illegible] but not verbal	X	✓	new (?) x's some ego; too confusing											
700-750	1	2	1/2	x 1, 2, 3, 4 same x 5; [illegible]	✓	✓												
750-800	1	2	1/2	x 1, 2, 3, 4 (TV) visuals only for 5 same	✓	✓	same											
800-850	1	2	1/2	x 1, 2, 3, 4 (TV) Tend x 5 same	✓	✓	same											
850-900	1	2	1/2	x 1, 2, 3, 4 (TV) interplane segment same Tend x 5	✓	✓	same (some time x anticipation)											
900-950	1	2	1/2	x 1, 2, 3, 4 Tend x 5 same	✓	✓	same with some x anticipation											
950-1000				transition	X	X	new X's											

INSERT C-2 GENERAL DESCRIPTION AND EVALUATION

Model: Bushell

School: Duckrey Location: Philadelphia

Date: 4/13/71

Tape Number: 4 (Simultaneous with tape 3)

Time: 10:44 - 11:47

Comments

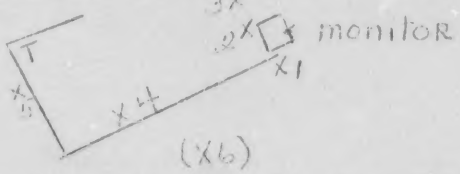
The first 2/3 of the tape - - good quality: sound and picture. (How does this tape coordinate with Tapes I and II? Same teachers? Same children?)

Brief description

0 - 580 math group. The children work individually with math books while the teacher rotates giving help. Sometimes help is sustained pupil - teacher dyad resembling tutorial situation rather than supervisory situation.

580 - 700 transition to "back up" or spend period. Children come and go. Children within view do not stabilize into a "group" until about 690.

700 - 950 "back up" period. Children numbers 1, 2, 3 and 4 "buy" monitor; watch story and music and child number 5 does math worksheet with help from the teacher.



Note: see 850 - 900 for interesting segment vis a vis autonomy and invocation of classroom rules.

950 - 1000 group dissolves - back up period ends new children enter viewer.

This class interesting: can see how same children behave in very different settings and how they cope (math lesson setting vs. spend

setting). Maybe try to locate "spend" children numbers 1, 2, and 3 in other setting.

Research Use of Video Tapes

A second objective of viewing the video tapes was to assess the research potential of the tapes. My original intention was to apply BORIS to the tapes and analyze the data for findings about the relationships between forms of behavior and setting properties. Of particular interest (See Page 3 Second Progress Report.) was the issue of intra-individual consistency of children's behavior in settings.

In order to learn about the variations of different children's behavior in the same setting and the range of behavior exhibited by the same child in different settings one would need to code the behavior of a number of children in a wide variety of setting types. However, examination of the video tapes revealed that it is often not possible to code a given child's behavior over time. Unfortunately, a major limitation of the video tapes (from the point of view of examining individual patterns of behavior,) is that, rather than following a given child or group of children over a period of time, the camera remains stationary recording the happenings in a particular area of the classroom, and the often brief comings and goings of children. Although there are a number of situations where children remain stationary -- and in view -- for a period of time, one must recognize that the very precondition of lack of mobility biases the type of setting sample which can be coded. In fact, children tend to be in view longest during the most prescriptive activities (teacher directed lessons and seatwork) and, with a few exceptions, in view most fleetingly during classroom situations where children can choose and change activities (Bushell "spend" period, etc.). And, it is precisely in these latter situations where we might expect to find the greatest variations in behavior even when setting characteristics

are held constant.

Moreover, when the logistical and technical problems involved in using video tape in classrooms are combined with the coding requirements of the categories in BORIS, the coding of child behavior, even in the prescriptive settings, tends to be difficult because: (1) in teacher directed lessons the camera usually focuses on the teacher so that the children's backs are in view; (2) in seatwork situations it is difficult to observe the content of the child's utilization of materials, i.e., is he working on math problems or vocabulary lists; is he writing answers or drawing?

The kind of information which I had hoped to obtain through the coding of the video tapes will be obtained in the January-February data collection. Although the tapes are not well suited for studying individual patterns of behavior, they provide an extremely rich source of material for a wide variety of other purposes:

Teacher Research. Perhaps the greatest research potential of the tapes lie in analyzing teacher behavior and language. Despite occasional sound problems, there are many hours of perfect records of teachers' classroom verbalizations. In addition, because the camera so often focuses on the teacher, it would be perfectly feasible to study differences in, for example, the teaching behavior of Engelmann-Becker teachers who get the children highly involved during the instruction sessions (as measured with IRIS) with those who do not. The tapes can also be used to study teacher roles and to obtain reliability scores for the teacher streams.

Exploratory Research.

development of IRIS, the tapes provide an invaluable source of primary data which can be used for:

(a) category construction

(b) reliability and validity studies

(c) preliminary testing of hypotheses

(d) training observers

Demonstration and Dissemination of Information Uses. A skillful construction of video tape segments could add a powerful visual component to any report of CCEP's research findings and, more simply, could be used for sharing with interested teachers and community groups' visual studies of some educational options.

This list of possible uses is by no means exhaustive. Rather, what needs to be stressed is the unlimited potential of the tapes as a source for stimulating thinking about education.

Part II

Observation Procedures for Assessing Setting Properties and Individual Children's Behavior

CCEP has been committed to developing observation procedures which, in addition to specifying setting conditions á la Gump also code the child's actual moment-to-moment behavior.

Gump's categories, which were applied and revised by CCEP in their 1970 research, were found particularly fruitful in their use as setting descriptors. However, CCEP became increasingly interested with obtaining coordinated information about children's actual behavior so that one might determine the extent to which a child's behavior conformed to expectations operating within the setting.

In a paper submitted to the Office of Education with the Third Progress Report, "A Comparative Analysis of Preschool Curriculum Models," I describe an observation scheme which combines coding setting properties and a child's actual behavior in terms of his interactions with adults, other children

and materials. CCEP's interest in studying the "match" between behavior and expectations led to an enlargement of the earlier scheme to include, for each behavior interaction category, an expectation category which specifies the extent to which the child is expected to interact with adults, other children, and materials. The resultant system for obtaining Behavior Observation Ratings in Settings, BORIS, observes one child over a period of time and codes, at half minute intervals:[4] (See section entitled "Brief Description of BORIS Categories.")

(a) classroom setting properties

(b) setting expectations (norms for the types of interactions sanctioned or expected in a particular situation or setting)

(c) match of behavior with expectations

1. interactions engaged in by the child

2. unsanctioned behavior - interactions engaged in by the child which deviated from expected behavior

(d) behavior content (verbal and object components of interactions).

The measures obtained with BORIS, and the relationships among these various measures, provide a systematic way of describing and analyzing variations in a child's behavior or school experiences as a function of:

(a) program model

(b) classroom

(c) setting demands

(d) individual differences between children.

We plan to collect data with BORIS in Follow Through classrooms, (set for January and February) to test out, along with IRIS, the instruments we hope to use to assess Follow Through children in their fourth grade "found" classrooms. Also, it will provide an opportunity to obtain findings about children's experiences in Follow Through classrooms which

can be coordinated with, and tested against, other project data. A number of questions which we plan to apply to the data are listed below and are followed by a brief summary of the research design with a calendar of our plan of work.

Sample Research Questions for BORIS and IRIS Observations

I. Are there expectations or expectation configurations for particular setting characteristics?

(if no, carry out setting and expectation operations separately)

i.e., Are expectations or expectation configurations a function of setting characteristics?

A. How can the found differentials in the amount and type of unsanctioned behavior be accounted for?

1. Is amount of unsanctioned behavior a child-specific characteristic?

2. Is there a systematic correspondence between the frequency and type of unsanctioned behavior and setting expectations/configurations? i.e., is unsanctioned behavior a function of setting demands.

3. Is unsanctioned behavior related to antecedent low involvement scores?

B. How can the found differentials in the type and content of a child's interactions be accounted for?

1. Is a child's pattern of interactions a function of program model?

2. Does the amount of variation of children's experiences in the same classroom systematically differ across program models?

C. How can the found differentials in involvement be accounted for?

1. Is involvement a setting specific characteristic?

a. Is there a systematic correspondence between involvement scores and setting/expectation configurations?

b. Is there a systematic correspondence between the degree

of unsanctioned behavior (measured by involvement scores) and setting expectation/configuration?

c. Are there specific setting/expectation configurations which optimize involvement for a wide range of children based on the unit of the classroom?

i.e. Are there specific setting/expectation configurations which optimize match for a wide range of children?

2. Is involvement a child specific characteristic?

a. Are individual children's involvements unique, one-to-one functions of setting/expectation configurations?

b. If 'a.' is yes, is there a correlation between mean involvement and teacher rating?

3. Is involvement a function of time of day?

4. Is involvement a function of particular classrooms?

5. Is involvement a function of curriculum models?

Research Design

At present, we plan to visit two classrooms for each model studied, and to spend 2 days in each classroom. Minimally, we plan to observe in Engelmann-Becker, Bank Street and Bushell classrooms. If time, money and local school authorities permit, we would like to add two EDC open classrooms and two traditional or control classrooms to our sample.

In each classroom we plan to observe four children on a random rotating basis for 15 minutes each until a minimum of one-half an hour of behavior observations per child, per day, is collected. In between the observation cycles we plan to spend approximately two minutes on a written description of the activity, materials, etc., observed during the observation cycle. The specific content of the description will be tailored to provide enough information so that other coding systems now being applied to the behavior stream, can be applied and coordinated with the BORIS and IRIS data.

During November and December, we plan to write up a detailed coding manual for BORIS, train observers, conduct a reliability study, and contact schools for data collection (2 schools/2 observation days each, per week), and work on computer programs for data analysis.

In March and April, we plan to complete both the preliminary analysis and re-analysis of the data and by May or June report our findings.

Brief Description of BORIS Categories

BORIS can be divided into four major sections: (1) the Setting Properties categories -- which provide information about the context in which the child's behavior occurred; (2) the Setting Expectation categories -- which specify the extent to which the child is expected to interact with or attend to adults, other children, and materials; (3) the Interaction Match categories -- which provide information about the child's actual behavior in relation to adults, other children, and materials; and (4) the Behavior Content categories -- which amplify the interaction data by further defining language, motor, and dramatic play behavior.

Setting Properties Categories. "Teacher Pacing" codes the teacher's control over the observed child's movement from one step of his activity to the next step. It is control of his movememt through an activity in time, and is coded in the following categories:

1. external control -- the child's pacing is controlled continuously and regularly by a teacher, the teacher gives direct demands for movement that call for a specific action at that time

2. combination -- the child's pacing is not controlled continuously by the teacher, yet she does intervene to effect pacing at frequent if irregular intervals, again, the teacher does give demands that call for specific actions at that time, but between those interventions that child controls his movement from step to step.

3. self -- the teacher does not influence the child's pacing, rather, his movement through the activity or task is self-guided.

"Group Cluster" codes the observed child's group membership on the basis of a shared physical space or a common activity:

1. observed child working alone
2. observed child a member of a small group (3-9)
3. observed child a member of a large group (more than 9.)

"Homogeneity of Primary Material" provides an index -- within the group cluster -- of the variety of materials being used by the children. The coding decision is based on a comparison of the observed child's material with the material of the child in closest physical proximity:

1. same or identical material, or shared materials /or neither child has materials
2. different material (or one child has some material and other doesn't)

"Homogeneity of Product/Performance" provides an index of the range of acceptable responses, within a group cluster, of the children's material products or, in their absence, the children's expected behavioral performance. As in the case of the prior category, the coding decision is based on a comparison of the observed child's product/performance with the child in closest proximity;

1. same or identical
2. different
3. joint.

The Setting Expectation categories code the proportionate amount of time, for the duration of the setting, during which the child is expected to attend to or interact with teachers, other children, and materials.

"Attend to Teacher:"

1. the teacher is the central or primary focus of the child's attention
2. the teacher is a secondary focus of the child's attention with materials or other children as a primary focus
3. attention to the teacher is not an operating expectation.

"Address/Respond to Teacher:"

1. addressing or responding to the teacher is the primary means of exchange with the environment
2. addressing or responding to the teacher is a secondary means of exchange with the environment

   i.e., some other means supersedes the operating expectations of exchanges with the teacher
3. the medium of exchange with the environment is other than verbal response to the teacher.

"Interact with other Children:"

1. child-child interaction is either a necessary or overtly sanctioned component of the ongoing exchanges with the environment
2. child-child interaction is neither a necessary nor overtly sanctioned or prohibited component of the child's ongoing exchanges with the environment
3. child-child interaction is clearly an inappropriate or overtly prohibited component of the child's ongoing exchanges with the environment.

"Interact with Materials"

1. materials are the central or primary focus of the child's attention (does not exclude other children as primary focus)
2. materials are a secondary focus with teachers as a primary focus or other children as a shared focus.
3. utilization of materials is not an operating expectation

The Interaction Match categories. Each Setting Expectation category has an Interaction Match category consisting of two parts. The first part codes whether the observed child, during the five second observation unit, engaged in a given behavior (attending to teacher; addressing teacher; interacting with another child; utilizing materials.) The second part codes whether or not the given behavior was, during the five second preservation unit, operating expectation.

"Attend to Teacher"

Part I	Part II
0. child did not attend to teacher	0. attention to teacher was not an operating expectation
1. child attended to teacher for most of five second observation unit	1. attention to teacher was an operating expectation

"Address/Respond to Teacher"

0. child does not address or respond to teacher	0. addressing/responding to teacher was not an operating expectation
1. child addresses or responds responds to teacher	1. addressing/responding to teacher was an operating expectation

"Interact with Other Children"

0. observed child does not participate in an interaction with another child	0. interacting with other children was not an operating expectation
1. observed child does participate in an interaction with another child(ren). He may take an active and/or passive role in the interaction	1. interaction with other children was an operating expectation

"Utilize Materials"

Part I	Part II
0. child did not utilize naterials	0. utilization of materials was not an operating expectation
1. child did utilize materials	1. utilization of materials was an operating expectation

The Behavior Content Section: The Communication Categories*

The Communication categories code the verbal or non-verbal behavior of each active participant (i.e. teacher, observed child and/or other child) in an interaction involving the observed child.

1. "adapted information"

Here the child (or adult) really exchanges his thoughts with others, either by telling his hearer something that will interest him and influence his actions, or by an actual interchange of ideas by argument or even by collaboration in pursuit of a common aim... Adapted information takes place when the child (or adult) adopts the point of view of his hearer, and when the latter is not chosen at random. (Piaget, 1969, p.33). The criterion of adapted information (as opposed to forms of egocentric speech...) is that it is successful. The child (or adult) actually makes his hearer listen, and contrives to influence him, i.e. to tell him something... In conclusion, as soon as the child (or adult) informs his hearer about anything but himself, or as soon as in speaking of himself, he enters into collaboration or simply into dialogue with his hearer, there is adapted information. (Piaget, 1969, pp. 42-43)

*Codes "1," "2," "4," and "6" have been adapted from Jean Piaget's language categories in The Language and Thought of the Child (1969)

2. "criticism"

This group includes all remarks made about the work or behavior of others, but having the same character as adapted information; in other words, remarks specified in relation to a given audience. But these are more affective than intellectual, i.e., they assert the superiority of the self and deprecate others. . . one child acts upon another in a way that may give rise to arguments, quarrels, and emulation. (Piaget, 1969, p.33)

Unlike adapted information, the function of these statements is not to convey thoughts, but to satisfy such non-intellectual instincts as pugnacity and pride; they may also contain elements of derision, of combativeness, and of the desire to assert personal superiority (Piaget, 1969, p.48). Most often this notation will describe one child's comments to another or to a teacher.

The "2" notation also describe an adult's comments when their function is not primarily to state facts or to convey information, but to censure, deprecate, or express disapproval of the observed child (personally or as a group member). However, such teacher comments as "That's not right, Johnny, try again," are not criticism, but adapted information --their function being to convey information --and are coded "1".

3. "teacher praise"

This group includes all remarks made by a teacher or other adult to the observed child intended to convey approval or praise. The teacher's comments must not be informational --in which case they would be coded as adapted information --but be intended to make the child feel good about himself or his work.

4. "commands, requests, threats"

This notation is used to designate commands, requests, and threats.

In all cases the speaker must be addressing his comments to another person. This notation should not be used to describe questions which contain an implicit request such as, "May I look at it?" Piaget writes:

> All requests which are not expressed in interrogative form we shall agree to call entreaty and shall include in the present category; while for interrogative requests a place will be reserved in our next category (questions). Here are some examples of entreaty: 'The yellow paint, please,' "I should like some water,' 'The India-rubber, teacher, I want the India-rubber.' (Piaget, 1969, p. 49)

5. "questions"

This group includes all remarks which are directed to a specific audience and which are asked with the expectation of receiving an answer. (also see next category)

6. "answers"

> We shall describe as an 'answer' the adapted words used by the person spoken to after he has heard and understood a question. To answers we shall assimilate refusals and acceptances, which are answers given not to questions of fact but to commands and requests (the teacher says, "Let me help you," and the child responds, "No, I want to do it myself.") (Piaget, 1969, p.50)

However, this notation is not used to describe answers "given in the course of conversation to remarks which are not questions but belong to 'information'." (Piaget, 1969, p.34)

7. "reading or singing"

If the verbalization of an active participant consists of reading or singing aloud, and if such reading or singing is directed to a specific audience or is done with the expectation that it will be heard by others, then "7" should be recorded.

8. "unintelligible"

If an active participant's observed behavior is verbal, but the ob-

server cannot discern what was said, and "8" should be coded in the appropriate column of the Verbal Category.

9. "non-verbal"

"Non-verbal communication" is used to indicate that the active participant's observed behavior did not include language, i.e. the interaction consisted solely of facial or bodily expressions or actions or physical contact

Questions

If a question is asked by a participant in an interaction involving the observed child, a "5" is entered in the Communication category, and further amplified with a notation in the Question category, indicating the type of questions asked. Questions will be classified as either 1 "academic" or 2 "other." Academic questions are those which refer specifically to the subject matter of the school curriculum.

The Material Utilization Category

0. Child did not utilize or attend to materials
1. Child engages in manipulative use of materials
2. Child engages in symbolic academic activity e.g. reads, writes, plays cards
3. Child engages in fantasy use of material e.g. dramatic or socio-dramatic play
4. Child engages in some form of motor activity
5. Attending to but not utilizing materials e.g. looking or listening--no physical contact (watching a science demonstration; watching another child paint; etc.)

The Material/Task Prescription Category

1. use of materials primarily regulated by external factors such as teacher directives, design or programming of material, shared rules and procedures.

2. use of materials primarily regulated by internal organizing factors

The Motor Activity Category

1. motor activity with large muscle equipment e.g. swings, slides, tricycle

2. task related motor activity without large muscle equipment e.g. dancing

3. routine motor activity e.g. eating, putting on coats

4. extraneous motor activity e.g. excessive fidgeting

The Fantasy Play Category

1. fantasy or toy-centered play without role taking

2. dramatic play: role taking is present

3. socio-dramatic play: role taking in cooperation with at least one other role taker

The Unsolicited Watching Category

This category codes the unsolicited sustained looking behavior on the part of the observed child.

1. observed child watches observer

2. other

IV. INVOLVEMENT RATINGS IN SETTINGS

Mike Greene
Fay Logan

In June, 1971 we began to examine the 1970-71 data in order to develop an evaluative tool to measure affectivity. Following Hunt (19)[1], we felt affectivity, although almost completely neglected in traditional evaluative tools, might provide a rich source of information in regard to the match question. In addition, methodologically it could be used in conjunction with setting and behavior descriptions (BORIS), and possibly with teacher role indices. Non-verbal behavior was selected as the basis for developing our measures of affectivity on the strength of a growing body of research in this area suggesting that the emotional state of the child is reflected in his non-verbal behavior (see Lehane, third progress report). In addition, such eminent educational theorists as Jacob Kounin, Phillip Jackson, and Ira Gordon have likewise cited non-verbal behavior as relevant to the study of affectivity in the child.

The use of indices of non-verbal behavior allows the researcher to transcend particular curriculum and settings i.e., any non-verbal behavior can be potentially manifested in any particular situation. For example, fragmented as well as relational, exaggerated or appropriate behavior can be seen in structured as well as unstructured, and play as well as work situations. This structural characteristic (Piaget, 1970) allows the researcher to use non-verbal behavior ratings as a function of setting variables (see BORIS).

We began by reviewing and organizing the literature and by examining the 1970-71 data with respect to non-verbal behavior. Although the setting data yielded some initial clues as to what our tool might eventually look like, we quickly realized that our richest source of information was the videotapes. We spent approximately one month looking at the tapes of the classrooms observed in 1970-71 noting possible indices which

had potential for being systematically scored. One technique we used was to observe videotapes of two setting-similar classrooms, one which we intuitively felt excited and involved the children and another which we felt alienated the children; thus allowing us to extract indices of non-verbal behavior which differentiated the two classrooms. We then applied these measures to other settings to test whether they were indeed trans-situational and whether they were similarly diffentiating.

Out of these initial observations we recognized that a fruitful way to organize our observations was to anchor them to behavior directed toward one of four basic types of interactions: child--child, child--teacher, child--material or task, or self-reflective. This principle of organization as we later discovered is isomorphic with Rochelle Mayer's organization within BORIS. In addition, we realized that atomistic measures such as eye-blink and brow-crease, although somehow indicative of emotional state must be considered within a broader picture of the child's behavior. The metaphors which came to mind were the orchestration of a symphony or the choreography of a dance. With the encouragement of Rochelle Mayer, who had successfully employed a time-sampling technique with BORIS and out of a desire to coordinate observation schemes we decided to employ a number of measurements which could be observed and quickly notated yielding a pattern of involvment over time for the child's day.

We soon came to intuitively understand that the difference between effective and ineffective classrooms based upon commonly agreed upon criteria was reflected in the child's level of involvement in the interaction in which he was occupied. The concept of involvement tapped the quality of the child's interaction, and in turn was an index of the appropriateness of the constructed environment (curriculum model, teacher

behavior, etc.) through the mind and body of the child. In light of cognitive developmental theory we know that the child reacts to the effective enviroment via his interpretation of this environment; it is not a direct reaction to any "objective" environment, though the above effective environment, as the child differentiates and integrates his world, gradually comes to take on "objectivity" (see chapter one). The researcher therefore has two aspects of the stimulus-cognitive interpretation-response cycle to examine (it must of course be understood that this is an open cycle dialectically making use of feedback, and that the nature of the cognitive interpretation develops): 1) an examination of the child's cognitive tools, and 2) a critical examination of the child's responses. The first is clearly not available to us given the requirements of our observation scheme (the ego-ideal scale might eventually be applied in this regard), while the second is liable to be specific to a particular interaction and liable to misinterpretation. Both of these liablities are minimized by the evaluative concept of involvement. First, as mentioned earlier, non-verbal behavior provides a structural measure transcending particular situations and specific cognitive levels; and secondly, our readings and observations all pointed to the concept of involvement as a critical evaluative tool in which to examine the child's responses.

At that time we consulted with a dancer experienced in the use of Effort/Shape dance notation. His comments upon observing a number of tapes with us made evident the richness of this tool in making our intuitions more concrete. Consequently we enrolled in an intensive course of observation in Effort/Shape at the Dance Notation Bureau in New York City. During our course of study we located articles which dealt with the concept of

involvement, one in college instructor--student interaction (Davis, 1964) and one in psychiatric therapist--patient interaction (Bartenieff and Davis, 1968). It became apparent that researchers extending the techniques initially used to observe and record dance had focused on the concept of involvement as central to the organization of non-verbal behavior. However, these articles like so many others, suffered from not attempting to go beyond the face validity of the notion of involvement. In addition, Phillip Jackson (Jackson, 1968) centered on the potential of the concept of involvement to be more functionally differentiating than the traditional concept of attention.

Our initial dimensionalization of involvement (IRIS--Involvement Ratings In Settings) consisting of 14 descriptive categories is listed below. In order to be as comprehensive as possible, we used a flexible, eclectic approach based upon our observations of the videotapes, our literature review of non-verbal behavior, Werner's principles of development (Werner, 1948; Werner and Kaplan, 1963), and dance notation literature to derive these categories which shall be later condensed into a more unified characterization of involvement through our validation technique (see below). In addition, we shall translate the categories into more operational terms so that reliability can be more easily attained with a minimum of training and practice. Most of these categories have a polar range, from least to highest involvement.

1. rigidity vs. fluency--focuses on the degree of tension evidenced in the body in order to establish the comfort and ease with which the child orients and participates in an interaction.

2. fragmentation vs. relational--focuses on the ability of the child to make connections and relationships between the phases of his activity.

3. boundaries: diffuse vs. clear--focuses on the degree of articulation and differentiation of the child's activities.

4. exaggeration or understatement vs. appropriateness--focuses on the child's ability to understand what is called for in his performance; it taps the degree of isomorphicity between the child's action and the task pursued in an interaction.

5. perseveration vs. variation--focuses on the child's ability to make use of feedback from an interaction.

6. gestural vs. postural body movement--indicates the fullness (degree of integration) of the child's participation in an interaction.

7. direction: away vs. toward or with--focuses on the child's orientation to an interaction.

8. shape flow: single dimension vs. sculptured--focuses on the child's richness of involvement.

9. distractability vs. resistance--focuses on the bond strength of the interaction.

10. phenomenal proximity: distant vs. intimate--focuses on the degree of personal commitment to an interaction.

11. extraneous behavior: high vs. low--another index of the bond strength of an interaction.

12. eye blinks; many vs. few--the number of eye blinks has been found to be directly proportional to the degree of frustration (Ponder and Kennedy, 1927).

13. brow crease: furrowed vs. smooth--brow crease has been found to be indicative of the degree of stress(Loventhall and Sharp, 1965).

14. eye gaze: peripheral vs. foveal--eye gaze has been found to be indicative of attentiveness(Hall, 1958; Jackson, 1968).

Applying these categories to children's behavior observed on the videotapes has yielded an initial coding technique: observing behavior for 15 seconds and recording for 45 seconds on a one to five scale (low to high involvement) for each of the first 11 categories once a minute (see coding sheet). Eye blink, brow crease, and eye gaze cannot be accurately observed from the videotapes. This technique allows the researchers to coordinate involvement ratings (IRIS) with setting and behavior ratings (BCRIS) in a number of ways (see chapter on Boris).

Initial inter-observer reliability scores between Greene and Logan range in the .60s, although with increased operationalization of the categories we expect reliability in the .90s. A full range of the programs observed during the 1970-71 phase of CCEP and of the various settings within these programs will be included. Approximately 200 minutes of observation will be necessary for statistical purposes. Greene and Logan will independently score the same children's behavior for the same time period.

The meaningfulness of an instrument such as IRIS is dependent upon the validity of the basic notion the instrument is designed to measure, and the operationalization of the scheme. We have decided to use a rigorous, but potentially very powerful technique of validation. We have selected a panel of three persons who through training and experience we judge to have educated and well developed intuitions on the notion of involvement: a dramatic actress/teacher, a dancer/instructor, and an artist/educator. These experts have been observing selected segments of the 1970-71 videotape data. They have been observing the same segments Greene and Logan will later observe for reliability and validity purposes. The panel has observed an indicated child for the observation bit of 15 seconds and then asked to give an overall rating of the child's involvement during that period, on a one to five scale from low to high involvement. The following directions were read to the panel:

Instruction Sheet for Coding Involvement

> We would like you each to independently code individual children for what is commonly termed "involvement." We are interested in non-verbal indices of involvement, though we will keep the sound level of the tapes normal so as to better simulate the actual classroom situation. Try to code the child's

> interaction or engagement with the teacher, other children, materials, and games; looking exclusively at this interaction without allowing your value system as to educational content and procedures to influence the way you code. We are interested in your intuitive notions of involvement; irregardless of the way the child got involved or what he is involved in.
>
> You will be asked to observe the behavior of a single child for a period of 15 seconds and then 45 seconds will be allowed for coding. The screen will be darkened during the 45 seconds period. A tape recording will indicated the observation and coding cycles. Please code with an equal interval on a one to five scale, from low to high involvement. You will have five minutes of observing a tape to orient you to the procedure and allow you to develop your scale.

The experts' ratings will be used for validation in two ways. First, they will be correlated to test for the level of significance of agreement between the judges as to their intuitive notions of involvement. Secondly, a regression line will be derived which will be correlated with the overall involvement scores of Greene and Logan to test for the level of significance of agreement between the judges ratings on intuitive notions of involvement and the scores obtained through IRIS. In conjunction with a statistician we intend to use the experts' ratings and IRIS scores to build a mathematical model relying on the technique called cluster analysis. This procedure will enable us to discover those categories or clusters of categories which are most strongly indicative of the involvement we are interested in, and those categories which are most troublesome or superfluous by the law of diminishing returns. We shall be able to derive a condensed, more highly efficient instrument than we have been able to develop based on our initial dimensionalization.

IRIS (Involvement Ratings in Settings)

Subject/ Time Identifimtion	rigidity vs fluency	fragment. vs relationa	boundaries diffuse vs clear	exgt/cntl vs apprprtnss	persvrtn vs variatio	gestural vs postural	Direction away vs twrd/with	Shape Flow l dimensio vs sculptured	distract. vs resistance	Phen. Prox. distant vs intimate	Extr. Behvr high vs low
	1 2 3 4 5										

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V. THE AUTONOMY, HETERONOMY, AND OBJECTIVITY OF AN INDIVIDUAL'S SOCIAL CONTACTS

DYCK'S SOCIAL CONTACT CODE AND CCEP'S JURIS

Joseph C. Grannis
Daniel White

In this chapter we will describe a planfor identifying all the social contacts in a behavior stream record; distinguishing between contacts in which the subject is especially oriented to the thought and action of another person, and contacts in which the other person is especially oriented to the thought and action of the subject; distinguishing further, in each category, between contacts that involve some explicitly recognized disagreement or conflict between subject and other, and those that procede without disagreement or conflicts; and analyzing the setting conditions under which the various types of social contacts occur.

We will use the plan in approximately its present form to code all the child behavior stream records obtained in the spring 1971 data collection. However, many social contacts that we identify in the child streams will not have sufficient information for coding, due to the difficulty both of recording the verbal interactions the children were engaged in and of seeing the material -- workbook entries, etc. -- that was often at issue. These uncodable social contacts will be identified as such. Eventually, we will know how to revise both the data collection and coding procedures.

The history of this chapter, were we to tell it all, would show how chaotically the investigator touches upon one part of a problem, then jumps to another, misses the significance of one line of thinking until another has begun to pay off, turns from data to theory back to data and to theory again, and gradually finds that he can weave together his own and previous investigators' concepts in a net that can be cast across the whole problem. We began with some intuitive hypotheses from the Second Progress Report

about how the knowledge and the social orders of a learning environment might be related to each other. We thought Arthur Dyck's (1963) procedure for identifying social contacts in behavior stream records might define behavior units that were appropriate for testing some of these hypotheses, but we stared blankly at the distinctions Dyck had made between types of social contacts according to their origins with self or with other. In a seminar on the Ecology of Human Development, we were pressed to recognize the minute-to-minute significance of a physical order that we had only begun to differentiate from the knowledge and social orders. Shortly thereafter, we first operationalized the several orders when we were scrutinizing videotapes and realized that judgments were verbalized in social interactions with reference to knowledge, social, or physical criteria and forms of logic. At about this same time, we differentiated autonomy, heteronomy, and objectivity out of integration, and we constructed a first version of JURIS, Judgment Ratings in Settings, that tried to rate the A, H, and O of knowledge, social, and physical judgments in different settings. However, we leaped too quickly for the jugular in this first version, trying to relate types of judgments -- unilaterally imposed by other on self or subject, unilaterally adapted by other to subject, unilaterally imposed by subject, and mutually negotiated -- to the ideal types of settings that were described in the Third Progress Report. These categorizations were too crude to recognize the complexity either of the settings or of the judgments themselves, and we next developed the more analytic version of JURIS presented in this chapter. Finally, as we returned to Dyck for the criteria of social contacts to which JURIS would be applied, we realized that his basic distinction between two types of social contact related directly to the dimensions of autonomy and heteronomy, and thus that a combination of his scheme and ours could result in a powerful

system for analyzing the A, H, and O of both conflict free and conflict involving social contacts in different settings.

It is important to remember that all of CCEP's present coding systems focus on the behavior of an individual over time, a constraint imposed upon us by our need to discriminate between individuals in an evaluation study, and by our theoretical model of transactions in learning environments. It is also important to keep in mind CCEP's general strategy, influenced especially by the ecological psychology of Barker and his associates, of making use of intersubjectively natural distinctions in such a way that one can reliably discern patterns in quite complex data without the invention of a highly specialized set of concepts that does not readily translate into ordinary language, in our case the ordinary vocabulary of, especially, individuals in learning environments.

A. The identification of social contacts.

Dyck defines a social contact as follows:

> The social contact is a unit of social interaction which contains within its boundaries (1) one subject, (2) one agent, (3) one raison d'etre, and (4) one continuous topic. The subject is the person whose behavior is recorded and whose social interaction is being studies. An agent is a person with whom the subject is interacting; an agent is sometimes called the environmental person. One raison d'etre means one originating ground for social interaction; twelve different grounds have been specified for use in discriminating and describing the social contact. One continuous topic refers to a topic which one person (the agent or subject) presents as a unit and to which the other person (the agent or subject) reacts as a unit. (Dyck, 81-82.)

The social contact is construed by both Dyck and ourselves as the smallest molar unit of social interaction in the behavior stream. We should expect, therefore, a correspondence between these units and the phase units of social interaction, as phases are defined in our chapter on Behavior Episode Structure in Settings. In the latter chapter, we have described

a theoretical heuristic for identifying phases, one that looks for changes in (1) action of self, (2) other person(s) commerced with, (3) object(s) commerced with, (4) symbolic reference, and (5) pacing. Dyck's (3) is subsumed under our (1), i.e., the original orientation of a social contact to self's or agent's action (Dyck's distinction) corresponds to the presentation and reception modes of positioning, presentation, and reception (CCEP's distinction). Finally, Dyck's (4) is represented by our (3) and (4), and our (5) is simply a specific structural cue to the changes in mode of self's action (1). Our more general scheme, then, should recognize the same social contact units that Dyck recognizes, though we developed ours before consulting Dyck's scheme specifically. At the same time, our recognition of the social contact phases of behavior episodes should become more reliable with the use of Dyck's twelve categories of social contacts, as these sensitize us to changes of mode of self's action, or molar changes within a given mode.

Dyck distinguishes between two general kinds of raison d'être for social contacts as indicating "(A) whether the agents are seen as coming to the child /or subject/ on grounds of their own choosing, independently of what the child is doing, wishing, asking, demanding, or (B) whether the /agents are responding to the child's immediate deeds, wishes, questions, demands, and so forth." (Dyck, 83) Notice that the distinction here does not always depend upon who actually initiated the social contact, though this is criterial for most of the specific types within each kind. Dyck summarizes his twelve types as follows:

A. The subject sees the agent:

IA 1 As someone who wants, or otherwise seeks, an activity from me (i.e., the subject).

IA 2 As someone who wants, or otherwise seeks an action with me (i.e., the subject).

IA 3 As someone who wants, or otherwise seeks to present himself, or something in unit with himself, to me (i.e., the subject). See Heider (1958) for an exposition of the concept "in unit with."

IA 4 As someone who wants, or otherwise tries to induce me (i.e., the subject) to present myself, or something in unit with me, to him.

IA 5 As someone who presents me (i.e., the subject) or something in unit with me, to someone else.

B. The subject sees the agent:

IB 1 As someone who responds to my (i.e., the subject's) expressed desire that he act for me.

IB 2 As someone who responds to my (i.e., the subject's) expressed desire that he act with me.

IB 3 As someone who responds to me (i.e., the subject) presenting myself or something in unit with me, to him.

IB 4 As someone who responds to me (i.e., the subject) or something in unit with me, prior to, or without any explicit request from me so to respond.

IB 5 As someone who responds to what I (i.e., the subject) am doing, about to do, or requesting to do.

IB 6 As someone who responds to my (i.e., the subject's) expressed desire that he present information to me.

IB 7 As someone who responds to my (i.e., the subject's) expressed desires, of whatever sort, by discernibly ignoring them.

(Dyck, 83-84)

The criteria for making the above distinctions are amplified, and examples are supplied, in an Appendix to Barker's The Stream of Behavior (1963), in which Dyck's article is published. We will therefore not elaborate them further here, except to point out their first approximations to autonomy and heteronomy in social interactions. Autonomy has been defined by us as control by self of self's thought and action. Heteronomy has been defined as orientation of self's thought and action to the thought and action of others. Dyck's five types of social contacts (A) that originate with the

thought and action of other presume, at least initially, an orientation of self to other, and his seven types (B) that originate with the thought and action of self presume, at least initially, control by self. IA 4, other's trying to induce self to present himself, for example, to tell about what self has been doing without any instrumental purpose on other's part than communication, may have a particularly salient component of heteronomy on the part of other, but it is still significant that this contact does not originate with self's desire to communicate, and thus that it requires heteronomy equally on the part of self. More generally, itmay well be the case that any harmonious interaction of either an A or a B type requires some degree of both autonomy and heteronomy on the part of both actors. Still, we believe it is valid tocount harmonious social contacts of types (A) as evidencing the heteronomy of self, and of types (B) as evidencing the autonomy of self, vis-a-vis the other persons in the interactions. We have qualified this claim with reference to the harmony of the interactions, and we will now turn to this part of the analysis.

B. The analysis of social contacts involving disagreement or conflict between self and other.

"Disagreement" and "conflict" may signify much the same thing in many contexts, but we have used both because of their inflections toward the cognitive and the affective respectively. From the standpoint of almost any theory, it is reasonable to expect that disharmony in either of the above senses will lead to a change of behavior on the part of self, other, or both, and thus will be crucially related to learning. Heider (1958) has made this a central concept of his theory, and CCEP turned to Heider's theory during the initial stages of our trying to construct JURIS and before we realized how central Heider had been in the work of Barker and his associates. We

now see many ways in which the basic concept of harmony or balanced state can be applied to the analysis of behavior in learning environments. "The concept of balanced state designates a situation in which the perceived units and the experienced sentiments co-exist without stress; there is thus no pressure toward change, either in the cognitive organization or in the sentiment." (Heider, 176.) The concept can be applied to the analysis of private thought and action, i.e., to behavior that is not socially transactional. However, it is when self is interacting with other that we generally have the most access to his cognitive organization and sentiment, and thus social contacts are crucial to examine for their harmony or disharmony, and for how disharmonious or unbalanced states are resolved.

Our use of the term "resolved" is somewhat ambiguous in the above and in other statements. In its most common sense meaning, it suggests that a conflict has been worked out to the mutual satisfaction of both parties, and sometimes this will indeed be the case. On other occasions, however, a mutually satisfactory resolution will not have been arrived at, but a resolution is still assumed, theoretically and even by common sense again (see Heider, who based his theory on common sense observations and distinctions), to take place for each individual separately. Each individual, that is, adjusts his own cognitions and feelings to be harmonious or to make sense within himself, by changing his cognition of the other person or the task, and/or his sentiment toward the other person or the task.

JURIS makes some incomplete progress toward the analysis of the resolution of a conflict in both senses of resolution, by examining the adaptedness of a solution to self, other, and objectively defined task. When a resolution is adapted to all three, it can be assumed to be a mutually satisfactory resolution. When it is not adapted to one or another of the three,

some resolution must be assumed to occur for self and otherseparately, but the specific nature of each might not be inferable from our data.

We have referred to objectivity in the title of this chapter, but this only signifies that we will attempt to make a start at considering objectivity. Our code will indicate whether or not objects are centrally involved in a disagreement or conflict, and it will rate the adaptedness of a resolution to the object(s) or objective task. This analysis, however, will be highly tentative. We feel we need to explore the question of objectivity in this systematic way before we can formulate our approach to it any further.

Let us now take up each section of JURIS in turn. (See pages following for JURIS coding form and coding options.)

Explanation of JURIS coding options.

JURIS is designed to analyze a social contact that contains disagreement or conflict. Some disagreements or conflicts will be quite obvious in the behavior stream record, but others will be confirmed only as the Issue codes are applied and the structure of a possible disagreement becomes apparent. An issue, our general term for a disagreement or conflict, consists operationally of an act and an opposing act. These might be a child's request for the use of an eraser followed by a child's denial of his request, or a teacher's request that a child complete a task followed by a child's statement that he is too tired to continue.

Social contact type. For Dyck's 12 categories, see above.

Original actor, second actor. These are the same two persons who are involved in the social contact, but the first actor in the conflict or disa-

greement to be analyzed is not necessarily the individual who initiated the social contact as a whole. The first actor is that individual of the two whose action is in some way first countered by the other. The countering implies an adverse judgment of some kind upon the action of the first actor, either with reference to the consequences for the second actor, with reference to consequences for the first actor, or with reference to consequences for a third person, an object, an objective task, or with reference to an authority or a rule or convention that must be upheld for its own sake. (See Explication of counter act, below.)

There will be occasions when an individual is engaged in a conflict with two or more persons who are acting as a unit in opposition to him. In this case, the unit will be construed as an actor, and the group category will be used. Where the two or more other persons are not acting as a unit, we will code just the issue between the subject and the other person with whom he seems to have the greatest conflict, and the group category will not be used. In both cases, a third person will be recorded as a party to the conflict (see below under Thir person(s) involved).

Original act, counter act. The six categories in these codes are meant to include all actions and to be mutually exclusive. Evaluative assertions will contain value words -- good, bad, right, wrong, fair, unfair, etc. -- and will use the emotive or affective loadings of the words (in contrast to statements that employ these words without their affective loadings, for example, "Looking at the answers would be cheating," vs., "You are cheating!") Nonevaluative assertions includes all other statements of fact or opinion (excluding suggestions as matters of opinion, since the opinion aspect of a suggestion is added to its heuristic or hortatory aspect.) It might be

questioned how a nonevaluative statement could be a countering act, but, in fact, teachers frequently make such statements to pose a contradiction for a pupil, perhaps adding to it a significant look or pause to emphasize the contradiction. Requests and commands are self-evident. Suggestions share with requests and commands the hortatory aspect, but, as noted, have a conditional or tentative quality that conveys a possibility of choice, as when someone says, "I think you might do this instead." Finally, nonverbal acts can include erasing another person's work, taking his pencil, turning him around in his chair, glaring at him, and so forth.

Explication of counter act. While we stated above that a counter act implies an adverse judgment of some sort, the grounds for the judgment are often not stated explicitly by the second actor. When the grounds are stated, the categories are employed to code the main focus of the explication. This code is influenced by the coding of the Pupil Role Interview (see Chapter IX), which distinguishes respectively between responses focused on self, on other or object, and on objective order.

Third person(s) involved, object(s) involved. Where the social contact occurred between, say, a teacher and the subject as a member of a group that the teacher was chastizing, a third person would be involved. Likewise, a third person is involved when the two persons of the social contact are disputing the consequences of an action for a third person with whom they are at that time in contact, including the case noted above in which three or more persons are involved as individual disputants and we have focused on the subject and the one other with whom he seems to have the greatest conflict. Analogously, an object must in some way be present and involved in the actual issue to be coded as involved. We have included these third

person(s) and object(s) codes for the obvious purpose of examining their relationship to issues in the different settings coded at the conclusion of JURIS with BORIS categories.

Knowledge judgment. Every issue will be coded as an instance of a knowledge judgment, a social judgment, a physical judgment, or a combination of these, even though the issue has not been explicitly stated by the actors, unless there is no reliable evidence for deciding what kind of judgment is involved. A knowledge judgment invokes the criteria of what is true or what produces a true result. One can dispute the truth or relevance of information, the correctness of an operation to produce a true result, or the adequacy of a product or a solution by a truth criterion. These may be virtually indistinguishable where, say, a question calls simply for the recall of a fact, and, conversely, they may be highly differentiated where a complex solution of a problem is called for.

Social judgment. A social judgment invokes the criteria of what is fair or unfair, just or unjust, or right or wrong by an interpersonal agreement or a social convention. Because "right" and "wrong" are frequently applied in knowledge judgments, they are liable to lead to confusion in the coding. However, right is not used for social judgments in a sense that invokes, or only invokes, the logic of falsifiability. When someone says, "It is wrong to destroy another child's work," the listener might attempt to disprove the premises of the speaker's statement, but he does not dispute the fact that the speaker is conveying interpersonal or social disapproval. The categories may make this clearer than our definition. Property control includes all matters of who has the use of or the responsibility for property. Division of labor has to do with the assignment of tasks to different persons.

Aggression control includes the regulation of fighting, teasing, and the like. Interpersonal regard might be construed to include aggression control, but we are using it in a more restricted sense that pertains to the manifestation of interest in other persons qua persons or as individuals in their own right. Group regard has to do with one's respect or consideration for a group as a whole. Status regard concerns respect for authority as such, or for other rankings of individuals in relation each other. Distribution of rewards includes not only material rewards, but also favors like being called upon (when pupils are competing for the teacher's recognition.) Finally, productivity has to do with effort and achievement with regard to problem solving, creative endeavor, and attainment of various objectively defined performance goals. These categories may not include at this time all that we will need to use, but they are the ones that have occurred to us so far from our inspection of the data.

Physical judgment. A physical judgment invokes the criteria of what is physically satisfying or what is physically adequate for the accomplishment of some end. As with social judgments, the use of the terms "right" and "wrong" suggests a logic of truth, but the truth of the speaker's judgment is ordinarily not questioned when he says, for example, "I feel tired," or, "That's too heavy on my side," or "I can't hear you, you should speak louder." Energy expenditure relates to matters like whether a person is working hard enough to finish a task in time, or whether a lesson should be interrupted because the children are restless. Affective expression has to do with the appropriateness of one's voice, gestures, and so on to express what one is feeling, or the appropriateness of an activity to release affective expression. Affective impression concerns the level of physical stimulation that an in-

dividual seeks or that is possible in one activity or another. Manipulative or locomotor movement relates to the motions that one judges to be appropriate for an activity. Finally, bodily need reduction refers especially to sex, pain, hunger, thirst, and elimination, as these become the criteria for individual's actions.

The language of the counter act and the first actor's response to it, if these are verbalized, will be our surest clue to which type of judgment is primarily involved within a single type, when, for example, a child is criticized for not working and he replies that he was helping his friend. Equally, categories in different types may be involved, for instance when a child tells another he is taking too long with a hammer, and the second replies that he has to take long to get the nails in straight. We will not just read any possible meaning into a situation, but will adhere closely to what seems to be the issue as the actors perceive it.

Further process. In this section of the code we will record the categories of actions that occur until the issue is resolved or abandoned (with private resolutions nonetheless). If the issue is resolved by a third person who was not previously involved in the social contact, this person will be recognized as the arbiter, and the arbiter code will identify him as a child or a teacher and as consulted or imposed. The issue may, of course, be part of a chain of issues in a complex problem, and in this case each new issue will be coded separately, defining "new" in terms of Dyck's criteria for recognizing a social contact, particularly attending to the raison d'être. When an arbiter imposes himself on the two actors in a social conflict, this will be counted as a new issue only if the arbiter introduces a judgment that is extraneous to the original issue, for example, when the

original issue concerns who will have th use of a phonograph, and the arbiter raises the question of disturbing others in the group.

Resolution Adaptedness. A resolution will be coded as completely adapted to subject and/or other if it completely fulfills or surpasses the intention implicit or explicit in the acts that originally defined the issue. It will be coded as partial if it partly fulfills these intentions, and none if it fails entirely to fulfill these intentions. The record must be interpreted very carefully to make these inferences. For example, when two children are competing to have the teacher call upon them, and one child pulls down the arm of the other (a case in our records), the issue is not who finally gets called upon but, rather, whether one or both children are to have an opportunity to be called upon. The adaptedness of the resolution to object, third person, or objective task concerns these as the actors themselves perceive them, not necessarily as we perceive them in terms of our own criteria for objectivity. This is easier said than done. Our coding for objectivity is frankly exploratory, as in a sense JURIS generally is, and we hope to learn from the attempt how to define our questions more precisely and more efficiently than the present scheme may allow.

Setting. The Teacher Pacing, Group Cluster, Material Homogeneity, and Product/Performance codes are the super setting codes of Rochelle Mayer's BORIS. We have attached them to JURIS in order to be able to relate the occurence of issues and different patterns of resolution to the basic setting types that can be generated from the super setting categories. We have added one category, 2-5 children, to the three categories in the BORIS Group Cluster code. We have included the BORIS non-super setting code, Material Use, because it may be particularly relevant to the conditions under which issues occur.

Coding Options for JURIS

Social Contact Type

Type A
1 As in Dyck, see pp.
2
3
4
5

Type B
1 As in Dyck, see pp.
2
3
4
5
6
7

Issue

Original actor
1 Subject (T or C)
2 Teacher
3 Child
4 Group

Original act
1 Evaluative assertion
2 Nonevaluative assertion
3 Question
4 Request, command
5 Suggestion
6 Nonverbal action

Second actor
1 Subject (T or C)
2 Teacher
3 Child
4 Group

Counter act
1 Evaluative assertion
2 Nonevaluative assertion
3 Question
4 Request, command
5 Suggestion
6 Nonverbal action

Explication of counter act: reference of reason(s)
- 0 None given
- 1 Self (second actor) reference
- 2 Other (first actor) reference
- 3 Third person, other than authority, reference
- 4 Object or task reference
- 5 Authority reference
- 6 Rule or custom reference

Third person(s) involved in the issue
- 0 None
- 1 One or more

Object(s) involved in the issue
- 0 None
- 1 One or more

Knowledge judgment
- 0 Not contended
- 1 Information
- 2 Process
- 3 Product or Solution

Social judgment
- 0 Not contended
- 1 Property control
- 2 Division of labor
- 3 Agression control
- 4 Interpersonal regard
- 5 Group regard
- 6 Status regard
- 7 Distribution of rewards
- 8 Productivity

Physical judgment
- 0 Not contended
- 1 Energy expenditure
- 2 Affective expression
- 3 Affective impression
- 4 Manipulative or locomotor movement
- 5 Bodily need reduction

Further process

Arbiter involved
- 0 None
- 1 Teacher
- 2 Child
- 3 Group

Arbiter consulted/imposed
- 0 None
- 1 Consulted
- 2 Imposed

Evaluative assertion(s)
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Nonevaluative assertion(s)
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Question(s)
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Request(s), Command(s)
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Suggestion(s)
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Nonverbal actions
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child
- 4 By both subject and other (teacher or child or group)
- 5 By arbiter

Final sanction
- 0 None
- 1 By subject
- 2 By teacher
- 3 By child

Final sanction (continued)
4 By both subject and other (teacher or child or group)
5 By arbiter

Resolution adaptedness

To subject
0 None
1 Partial
2 Complete

To other
0 None
1 Partial
2 Complete

To object, third person, or objective task
0 None
1 Partial
2 Complete

Setting Descriptors (from BORIS)

Teacher pacing
1 High
2 Medium
3 Low

Group cluster
1 1 child
2 2-5 children
3 6-12 children
4 More than 12 children

Material homogeneity
1 Same
2 Different

Product/performance
1 Same
2 Different
3 Shared

Material use
0 None
1 Manipulative
2 Symbolic
3 Fantasy
4 Motor
5 Looking

Columbia Classroom Environments Project

JURIS
Judgment Ratings in Settings

ID					
Social Contact Type				0 1 2 3 4 5	Type A
				0 1 2 3 4 5 6 7	Type B
Issue				1 2 3 4	Original actor
				1 2 3 4 5 6	Original act
				1 2 3 4	Second actor
				1 2 3 4 5 6	Counter act
				0 1 2 3 4 5 6	Explication of counter act
				0 1	Third person(s) involved
				0 1	Object(s) involved
				0 1 2 3 4 5	Knowledge judgment
				0 1 2 3 4 5 6 7 8	Social judgment
				0 1 2 3 4 5	Physical judgment
Further Process				0 1 2 3	Arbiter involved
				0 1 2 3 4 5	Arbiter consulted/imposed
				0 1 2	Evaluative assertion(s)
				0 1 2 3 4 5	Nonevaluative assertion(s)
				0 1 2 3 4 5	Question(s)
				0 1 2 3 4 5	Request(s), Command(s)
				0 1 2 3 4 5	Suggestion(s)
				0 1 2 3 4 5	Nonverbal action(s)
				0 1 2 3 4 5	Final sanction
Resolution Adapted-ness				0 1 2	To subject
				0 1 2	To other
				0 1 2	To object, third person, or objective task
Setting Descriptors (from BORIS)				1 2 3	Teacher pacing
				1 2 3 4	Group cluster
				1 2	Material homogeneity
				1 2 3	Product performance
				0 1 2 3 4 5	Material use

VI. BEHAVIOR EPISODE STRUCTURE IN SETTINGS (BESIS)

Coding Procedures

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The procedures discussed in this chapter make possible our asking a variety of questions about teachers' and children's behavior in classrooms. These questions are defined especially in Chapters 1 and 7.

Ideally the following procedures, adapted from Barker (1963) and Wright (1966), could be applied to the episoding of behavior in any setting. However, we have so far applied them only to classroom settings, and thus cannot claim a larger generalizability. The reason for this is essentially that one defines behavior coding procedures not only by rules but by examples, necessarily, since the rules alone do not entirely convey the distinctions of range or degree that are an integral part of coding conventions and are necessary to reliability of coding. Each of the conventions defined below is illustrated in terms of both a teacher and a pupil behavior segment.

First several general principles, all adapted from Barker and Wright, have to be taken note of. Molar behavior is assumed to be directed by the anticipation of goals. This is not to say, teleologically, that future states determine the behavior, nor does it say that the anticipated or intended goals are always those that result from the behavior. It is basically parsimonious to account for regularities in the direction of behavior first of all in terms of its observable internal organization.

The internal organization of behavior over time is best analyzed by a procedure of hierarchical dividing. For this purpose, it is absolutely essential that the coder begin with the largest behavior sequences and progressively divide and subdivide them into episodes, and then into sections and

phases if these can be recognized, rather than simply starting at the beginning and trying to code each change in the direction of behavior as it is encountered. Suppose, arbitrarily, that we begin with a record of an individual's behavior over a day in school. We can arrive at a first approximation to behavior episodes by dividing the day into segments that correspond to the individual's presence in different behavior subsettings: the cloak room, the library corner, a math lesson, etc. This is then corrected by looking more precisely for the initiations and terminations of the longest behavior sequences within the day, sometimes corresponding to entry and exit from a behavior setting, and sometimes occuring within settings and sometimes overlapping settings. "Longest" is a strictly relative term here; many complete episodes last for less than a minute. Intersubjective inferences to the individual's behavior goals are required to identify these episodes, but objective features of the behavior can be specified as the evidence from which these inferences are made (see Section B below). The sections, if any, within each behavior episode are then identified as the next most inclusive sequences within the episode, by inference from the same objective features attended to in the episoding. Finally, phases will be analyzed within episodes or sections through a further application of the procedure. We are interested in sections and phases for what we can judge from them about the complexity and the integration of the behavior in question. To be coded, the sections and phases must be molar with respect to intentions, i.e., they must be segments of behavior that can be identified with subgoals that the individual appears to anticipate. Behavior that is subliminal with respect to goals or subgoals is characterized as molecular, for example reaching for a hammer, grasping the hammer, lifting the hammer, etc., as molecular segments of the behavior of hammering. It could be

argued that intersubjectivity is required for any behavior coding. The recognition of it as a coding strategy is fundamental to the coding of behavior streams.

Two kinds of analysis have to be managed simultaneously for the initial division of a behavior stream into episodes, sections, and phases. The first, to be described in Section A, attends chiefly to the episodes per se, especially to the quality of their simultaneity or overlap. The second, to be described in Section B, examines the section and phase structure of each episode separately. A third type of analysis, described in Section C, looks at the origin of the forces influencing changes in the direction of behavior, or the spontaneity, instigation, or pressure associated with initiations and terminations of episodes, phases, and subphases. A fourth type of analysis, described in Section D codes the vertical relationships between adjacent segments of behavior as integrated, contingent, algorithmic, repetitive, additive, and perspective. Finally Section E describes the analysis of horizontal relationships of behavior segments(the overlap of episodes as described in Section A) and the code for the termination of episodes.

A. <u>The overlap of behavior episodes</u>.

1. When all of an individual's behavior at a given time is directed toward a single inclusive goal, a continuous line is drawn in the margin of the record for the duration of this behavior.

Working with math group

Example 1a

The teacher is working with each of them.

She is helping them work out whatever problems they are working on.

There are two boys and one girl.

She is talking with one child now, the other two are watching.

The teacher is complimenting one of the children.

She says, "That's good."

They are all doing the same problems.

They are addition problems

She is having each of them read it.

One of them reads it incorrectly and she says, "No, read it again."

Okay, she says, turn your paper.

These are small little booklets with problems on them.

(I am unable to see what they are.)

The teacher is reading them a story.

The story is about Bernard who has six telephones.

He has got seven more, how many will he have.

And the teacher says when we have more we plus.

They are starting to do the problem and they are all writing on the paper.

They are writing six plus seven on the paper.

Doing inaccurate hand writing worksheet

Example 1b

The teacher erased something in Martha Sue's book.

And Martha Sue said, "See they keep making me go off the lines."

The teacher walked away.

The other girl pulled her book.

Her look now is noticeably -- not upset -- but saddened by the fact the teacher erased it.

Now she's got sort of a faint scowl on her face.

She's looking around.

She's stopped working hard; she's sort of playing with her hair.

Her right hand is just holding the pencil and resting.

Now she says in a half whine, "Miss Jones, they made me mess up."

She's sort of frowning.

How she raises her hand, still playing with her hair and Miss Jones still hasn't recognized her.

She's still standing there with her hand in the air, playing with her hair.

Now Miss Jones comes over and gives her a token and she says, "They made me mess up."

With one hand she's rubbing her left eye.

She points to where she messed up.

Miss Jones gets a piece of paper and gives that paper to Martha Sue.

It will be noticed in Example 1b that the coder regarded Martha Sue's playing with her hair as subliminal the child's intentions, and did not mark it as a separate episode.

2. An individual can be involved in more than one episode at a given time. For example, a teacher can be "writing the day's agenda on the blackboard" and simultaneously "attending to children's questions about homework." A child can be "looking at a book" and "listening to a public address announcement." We assume, like Barker and Wright, that full attention to or engagement with something is a potentially constant quality, i.e., one cannot be fully attending to more than one thing at a time. Therefore, when an individual appears to be involved with two unrelated objects or objectives simultaneously, we code both with dashed lines as follows:

Example 2a

A few children approach her with papers that they're going to work with.
She brushes the table by the door of the front of the room, puts down the clipboard and all these papers.
Another little girl approaches her and talks to her.
She exchanges some words with her and walks away.
The teacher goes over to her desk at the side of the room, puts something into the drawer of the desk, begins to walk across the room again to the table at the front of the room.
A girl approaches her; the teacher points to an area of the room, tells her to go over there.
Another child approaches with a ponytail.
The teacher is holding the group of papers in her left hand.
The child has approached to talk with her, is talking with her.
Another child approaches, the teacher has all these papers in her hand.

Prepares room, organizes materials

handles child question

Example 2b

eating a snack

talking to a friend

At the present moment they're eating their snack which is fruit salad and the juice.

He's shoveling it in pretty fast, but talking to the little boy who's sitting at the table with him.

Keep's pushing in the food.

He speaks with his mouth full as he's chewing.

3. A second episode can interrupt a first, so that the individual attends temporarily only to the second, but the individual may during this interval maintain his setting orientation to the first, and resume the first upon the termination of the second. In this case, the line for the first is discontinued for the space of the interruption, and a solid line is drawn in a second column for the duration of the second.

Example 3a

Conducting a discussion

I am now replacing Sally in the room in an observation of the head teacher.
Right now she is in a circle with a group of the children.
She is sitting discussing today's weather.
She has both of her arms extended and is grasping the back of the chairs of the children sitting on either side of her.
She looks at the boy and asks him a question.
A little boy just walked through kind of bumping into the chairs.
She then says to the little girls, "Let's make a space so that Michael can pass."
She helps the little girl to move her chair.
The girl sits down again and she then resumes asking the children questions.
She now has her left arm linked over the back of her chair.
Her right hand is on her lap.
Now in an expressive gesture she has her right arm crooked at the elbow.
She is moving her fingers in the air back and forth as she talks to the children.
She is talking about fog and rain.
Now she puts her hands together in a silent clap.
She turns her head to the left.
She turns her head to the right.
She is taking in all the children in the group.

Helping Michael pass

Doing the reading workbook

Example 3b

Now she gets back and reads the next one out loud again.

Then she writes the answer in.

The teacher comes over to check on her and says, "Very good."

Doing work she might do at home

Now she looks up and she just responded to something.

She said, "She ain't been in my class."

The girl next to her is talking to her and she goes, "Yep."

She sticks her pencil in her mouth and she's talking to the girl again.

They both shake hands and they agree on something.

Now she reads, "This man is glad."

Then she marks something.

She is writing the answer in her book.

It is very important to discriminate carefully, and conservatively, between those segments that are clearly alternatives to the episode in question, and those that may represent different modes of performance from the expected one, but are still, at least marginally, related to the main behavior episode. The technique of phasing and subphasing, as discussed later, will allow us to preserve the latter information without distorting it. For example, the following is a case which at first looks like it contains a second episode, but in which the child's focus of attention may simply be more diffuse than expected, including shifting from the teacher to another child in the central interaction.

Participating in the open session

Example 3c

Now he is kind of stretching, he yawns.

He is watching the teacher write on the board.

Now who can tell me what month it is?

Art does not raise his hand, he did not raise his hand to the last question either.

He is not really attending.

He is looking at Lewis now who is returning to his chair.

Now he looks up at the board.

The teacher asks another question.

This time he does raise his hand, high in the air above his head.

The teacher calls on another child so he lowers his hand.

He has his elbows on his desk right now.

He is holding his pencil in his hand.

He has the eraser of his pencil touching his chin.

he is kind of running his hand up and down the pencil.

The teacher has asked another question.

Art is just sitting there.

She rephrases the question and Art raised his left hand in the air as did several of the other children.

4. If an event causes a total cessation of a behavior episode, such that the individual does not maintain his orientation to the setting of the first episode but shifts to a second setting, the first line is discontinued and the second line takes its place in the main episode column. The meaning of "setting" here, and generally, includes not only location as such, but location with a set of behavior targets (persons, objects, objectives) and expectations or patterns and rules. Thus, a new setting could be constituted in the same place by changing the constitution of the targets and expectations in that place.

Example 4a

Teacher points to the book, points to Tammy's error.

Tammy understands what her error is.

There's a boy standing next to teacher's right elbow.

The teacher inclines her body toward him.

At the same time Michele addresses her, smiling.

Teacher looks at Michele, listens to what Michele has to say.

Smiles at her.

The boy has approached her with a math paper.

Teacher looks at the boy, smiles, talks with him about his math paper.

She asks him to do an errand for her, asking someone, I think, to come to her.

Now she looks across the table as the boy walks away, to Tammy's work.

She nods her head up and down, indicating that Tammy's correction is what was supposed to be done.

Now she looks over toward the activities on the rug.

She gets up and walks over to that area.

She notices that a few of the girls are playing rather roughly with a stand-up board game.

Teacher arranges the board, tells the children to play with it gently and not too roughly.

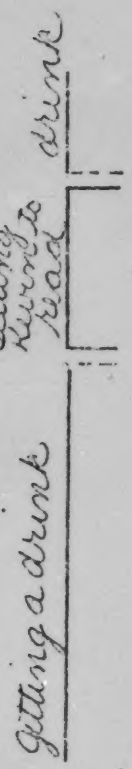
She addresses herself to Joe, talking to him about the reading game.

Asks if they have finished with the reading game and so forth.

Then she returns to the front of the room.

She turns Tammy's page and indicates the page to turn.

Tammy says, "I did that page."



Example 4b

Now he comes up towards the front of the room and asks the teacher if he can get a drink of water.

The teacher asks him to tell Kevin to come and read.

He nods his head and walks back.

He says, "Kevin, you have to go read."

Now he comes back to the teacher.

She gives him his card.

He asks, "Can I get a drink of water?"

"Can you go quietly?"

He nods.

He makes a joke with her about how he might do this.

And now he leaves the room.

Notice that when the first, interrupted episode is resumed from the leaving off point at the termination of the second, interrupting episode, dashed lines are used on the horizontal closing and opening brackets of the first and first resumed or third episodes, to indicate their relationship.

It is important to discriminate carefully, and again conservatively, between these cases of discontinuance of a first episode, and interruptions which though long, do not lead to the dissolution of the first setting or the individual's at least partial orientation to it. The following case illustrates the latter possibility.

Example 4c

The girl brings her a cardboard, she's addressing herself to Steven, in the group now.

What are you going to read now in the story.

The girl brings it to her.

She makes a line down the board to indicate to the girl that she needs a scissors.

The girl goes off to get a scissors, she accepts the cardboard onto her lap.

And she's looking at the children, one of the children says something about working with tinfoil.

She says, "Did you bring any tinfoil," he says no.

So she smiles.

So anyway, she says to the child, "Do you think you can bring tinfoil tommorrow."

Meanwhile the other little girl has brought her the scissors.

_____has approached her.

She takes the scissors and begins cutting.

She continues cutting and the three children in the reading group are just sitting there.

She cut the cardboard for the little girl.

The little girl walks away with the cardboard, puts the scissors away.

Tyrone walks away getting some cardboard from her also.

Now she turns back to those three children, paying attention to them and their reading.

She's watching them, Tyrone approaches her asking her a question.

She nods and says, Mrs. so and so, will do it for you.

Indicating one of the assistants.

Tyrone walks off to one of the assistants.

She looks over her left shoulder.

It is also important to distinguish between both of the above types of interruption by an alternative episode, and interruptions within an episode. The latter can be observed when, for example, a teacher stops a progression of discussion moves toward a certain subject matter goal to reprimand a child in the discussion group for inattentiveness. Since this is not really extraneous to her teaching in that setting, it is best recognized as a section or phase of the teaching episode.

Example 4d

How come you say the first dog.

The children give an incorrect answer.

She goes ooo with her mouth closed but a half smile on it.

She points to another child.

She's holding the book on her lap.

She's got other things in her hand on either side of the book.

Glances up at me, looks back at the table.

The girls beside me are wiggling over to hear me, one of her little friends over here.

The children are chanting out in unison three's more than two that's all.

The teacher says, ahh, makes a pretty expressive gesture, sweeping her hand, her palm extended, is kind of a slapping motion, swings all around, goes ohh, mouth open, eyes closed.

working with math group

controlling behavior within group

Example 4d (continued)

She gives the right answer finally cause the children don't respond right.

Three is two more than one.

One plus how many equals three.

One of the children is doing something and the little girl in the green dress is twiddling with her hands or something.

She reaches over to stop the child on her knees or her hands.

I can't tell which where down there.

It was a fairly audible slapping sound.

The girl sat up quickly in her chair.

Another girl has come over the group now, has slipped a chair up behind, is slightly between two of the other children.

So there are now eight children in the group.

She points to a boy, "Now you say it."

5. A second episode may commence while a first is still in progress, and may, more or less gradually, assume prepotency until the first episode is terminated and the second becomes the first. The child example below is somewhat ambiguous, since the child's putting away the materials of the first episode is continuous with his more general cleaning up activities in the second. Nevertheless, the double lining seems to capture the dynamics of this better than would a single line or two successive single lines, for example, as the child continues an explaining-to-others phase of the first simultaneously with cleaning up.

Example 5a

closed her book.

Is getting the books together in a little pile.

Teacher says, "Go on," she flips a little hand away with brush away motion and then says, "Go over to math."

Now the teacher's getting all the children to come over now who she wants _____finish_____and come over to reading.

She's sitting there.

Now she's tapping her fingers of her left hand on the desk.

She looks around the room waiting for the new children to come and for the little boy to finish circling the sounds for the beginning _____of the words.

Boy finishes a page and she looks.

Check, Check.

Check, check, three incorrect.

She just looks at the teacher, I mean she just looks at the boy with a little look.

Now she grinned.

Doesn't say a word.

Spins the book right back around to face him.

The boy kind of sheepishly picks his pencil up, starts looking at the book. He's looking at the incorrect ones, looks slightly stymied, doesn't know what to do.

"Antonio, finish what you are doing and come over to reading."

She gets out of her chair, walks around the desks, pulling the work-books and the teacher's book that she was working with that time in her left hand.

checking workbook

signalling transition to next group

signalling movement group

Example 5a (continued)

She walks around, calling more children to the reading.

And now puts those books down on her desk and fumbles through some other workbooks and books looking for something.

Went through a stack, looks, quizzical look on her face.

Example 5b

Now some little boys are looking at the work and they're asking questions and subject is explaining what is going on and how some of them broke and how they fixed them and where they put all they need over here.

Teacher says okay let's get on the rug boys and girls.

Put your things away and sit down.

Subject is over here, gathering together some of the loose discs that were on the shelf.

He scoops them together and lips then on the corner of the brown paper.

He presses the corner of the sign again, please do not touch, on the sign.

As one of the boys he is explaining it to goes to touch the sign,

Homer says DON'T.

Oh, he didn't go to touch the sign, he went to touch one of the airplanes.

"When we ask you to sit on the plane, remember we ask you...."

Teacher touches her mouth to the children who are talking.

Says, "Quietly."

Teacher is going around explaining to the children that we will have to put our things away now because we are getting ready for lunch.

A lot of children are over near the back corner near their name boxes and putting things in and taking things out.

Now the little subject is back there.

(Subject goes into sequence of clean-up activities.)

Making air force display

cleaning up for lunch

cleaning up for lunch

B. Episode sections and phases.

In order to examine the relationship of the parts to the whole of an episode, CCEP has found it necessary to define subepisode units of behavior within the behavior stream. As Barker and Wright have discussed, any given episode in a person's life can be viewed both as a means to some larger goal and as a proximal goal to which still smaller segments of behavior are related as means. Any one segment of behavior is thus both a means and a goal. In school, for example, "participating in a math lesson" can be considered both the means for achieving the more inclusive goal of "learning math", and it is in turn the goal which subsumes the goals of "listening to the teacher explain how to multiply 23 x 48," "answering the teacher's questions," etc. Barker and Wright do recognize in theory that all behavior is organized into these hierarchically related molar units. (A molar unit is a segment of behavior organized in relation to a manifest intention.) Specifically, their theory distinguishes sections and phases within episodes. However, they have not applied the distinction to the actual analysis of behavior streams, and thus we have had to operationalize it ourselves.

Sections are parts of certain episodes. After we have identified an episode and perceived its direction we distinguish the first level of proximal goals that relate to the intention of the episode. These units must meet two criteria to be sections. First, ends must serve as means to the more inclusive episode. The following example illustrates the first rule: "teaching the class to count backwards by 2's," "giving the class six subtraction problems orally one at a time," and "giving the class a subtraction worksheet," are all sections which contribute to the goal of "teaching a math lesson." Secondly all the sections of an episode must be on equivalent levels of organization. Any segment which can be considered as a means to

another section is not itself a true section. For example, "asking Yvonne to count backwards from 20 by 2's" is not a section of "teaching math lesson," but is a part of the section "teaching the class to count backwards," and is therefore called a phase.

Phases are parts of sections, or, where sections do not occur, parts of an episode directly. The rules for recognizing phases in relation to sections are analogous to the rules for distinguishing sections in relation to episodes. An extension of the above examples will illustrate the level of behavior at which phase organization usually occurs. "Asking Sonia to count backwards from 20 by 2's," "asking Yvonne to count backwards from 16 by 2's," and "asking the whole class to count backwards from 28 by 2's," are all phases of the section "teaching the class to count backwards by 2's." The level below phases is usually that of molecular/actions like "turning to the child," "asking her a question," and so forth. Consider another example. The episode is "going to the library." Its constituent sections are "choosing a book on volcanoes," "helping friend choose a book on volcanoes," and "discussing his choice with classmates in the library." Included within the section "choosing a book on volcanoes," are the phases "finding the book," and "stamping it and filling out borrower card." These particular phases are not isomorphic examples of a general intention, but fulfill different proximal goals necessary in a given order for completion of the larger intention. (See Section D for fuller discussion of the different types of relationships between sections and between phases.)

It may be objected that behavior often does not occur in such neat, logical or rational organization. There are many segments of behavior which are not part of the intention of a given episode and that may even be antagonistic to it. We agree. These segments are marked as alternative epi-

sodes (see Section A) and have their own internal organization of sections and phases. An episode includes only those actions in a person's behavior which further the manifest intention of that episode. Other actions at a given time further alternative intentions and are therefore parts of other simultaneously occurring episodes.

Another difficulty arises when long segments of behavior which appear to be part of one episode break down into two or three major parts, and each part is again easily broken down into sections and phases. A teacher, for example, spends one hour and a half leading a discussion. The first half is spent talking about the schedule for the day and the second talking about seeds. For reasons of convenience we have decided to code only three levels of organization, yet the above example seems to demand four levels. We will code each long segment as an episode, recognizing that each relates to the larger goal of maintaining the discussion setting (which some teachers might do for even longer!), but recognizing also that each main segment in the setting has itself the properties of an episode.

The length of sections and phases is not a defining characteristic. Obviously the section of an episode will be shorter than that entire episode, though some sections might be longer than some of the episodes of which they are not a part.

We are using a heuristic scheme to identify the changes in observable behavior which constitute and signify a change from one episode to another, one section to another and one phase to another. Specifically we are noting changes in the mode of self's action in the persons commerced with, the objects commerced with, the symbol referent, and the tempo of activity. For each type of behavior we ask is there 1) no change, 2) a partial or subset change, or 3) a complete or set change? The mode of the self's activity is either

presenting, receiving, positioning, or a combination of these. The symbolic referent is a topic of discussion, a subject of writing, or other symbol content. We are interested in the extent to which large episode changes entail changes among all or most of the above dimensions, and if section and phase changes occur with changes in favor of these dimensions.

C. Episode, section, and phase initiation.

Nehemiah Jordan (1963) analyzed episode initiation with the Barker and Wright categories of spontaneous, instigated, and pressured. In addition, he differentiated the category of instigated in several ways that seem very promising to us. Let us quote Jordan's summary of the scheme and his use of it, and then comment on its applicability to our own data.

> The initiation of an episode is judged to be spontaneous when it appears to originate solely in the acting person, i.e., no change occurs in the environment which acts as an instigator or source of pressure for action. When some change occurs in the environment which appears to "set off" the behavior, the initiation of the episode is considered to be instigated.
>
> In the present research the episode category "instigated" was divided into five subcategories. First, direct instigation was differentiated from indirect. Direct instigation was defined as direct communication to the child by the instigator that the child initiate an activity. Indirect instigation was defined as a change in the environment which attracted the child so that he stopped what he was doing and started a new action. Indirect instigations were subdivided into those resulting from induced and from uninduced changes. An induced change was a change brought about by the instigator in order to attract the child's attention; i.e., it was a technique for the indirect control of behavior. An uninduced change was one which occurred unintentionally. Instigation was further characterized as to the nature of the instigating entity. If it was another person, the instigation was called "social"; if it was an impersonal entity, the instigation was called "object." Instigation accompanied by any form of coercion was called pressured. In practice this category was restricted to verbal threats and physical coercion on the part of another person.
>
> All episodes of the records were, therefore, judged with respect to their initiation on the following categories:

1. Spontaneous initiation
2. Instigated initiation:
   2a. Direct social
   2b. Indirect, object induced
   2c. Indirect, object uninduced
   2d. Indirect, social induced
   2e. Indirect, social uninduced
3. Pressured Initiation
4. Cannot judge

> The initial summation of the distribution of initiation judgments showed immediately that only the two categories, (1) Spontaneous initiation and (2a) Instigated initiation, direct social had significant numbers of entries. The other ratings had so few entries that they were pooled as a residual category, other. Data are, therefore, reported for spontaneous initiation, direct social initiation, and other types of initiation except where comparisons are made to Midwest data. For these comparisons, the results were regrouped into the categories spontaneous, instigated, and pressured initiation. The ratings "cannot judge" were so few they were excluded from the analysis. (Jordan, 206-207.)

First, let us note that a subject does not have to fully stop an action for a new action to commence, as discussed in Section A of this chapter.

Jordan's finding that there were few initiations in his indirect categories might discourage us from using the distinctions ourselves. However, our preliminary inspection of the spring 1971 child behavior stream records suggests to us that some of the largest differences in initiation are going to occur between the phases of one stream or another, rather than between episodes, the level to which Jordan's and Barker and Wright's analysis was confined. Consider the following examples of instigated phase initiations in these streams:

2a. Direct social. The subject shifts from counting backwards to counting forwards in response to the teacher's solicitation to the group.

2b. Indirect, object induced. The subject shifts from addition to multiplication in response to a change in his math workbook.

2c. Indirect, object uninduced. The subject accidentally spills his

materials on the floor and picks them up.

2d. Indirect, social induced. The subject shifts his attention to the teacher as the teacher makes an obviously inviting fuss over a new game.

2e. Indirect, social uninduced. The subject shifts his attention from a workbook to a teacher's rewarding another child.

2a, 2b, and 2e are the categories that we anticipate having to use most frequently. We had to strain somewhat to come with examples of 2c and 2d, but since both the induced-uninduced and the social-object dimensions figure in the categories we expect to be most frequent, we will use Jordan's categories as he defined them. We may ourselves have to collapse some of the ratings following the analysis, but at this point we have assigned highest priority to identifying possible relationships in the data.

We will use these distinctions to code episode, section, and phase initiations. In addition to discriminating between the phase structure of one stream and another, we expect this analysis to be particularly revealing with respect to the relationship of main to alternative episodes, i.e., the episodes marked in the first and second columns of the behavior stream, as discussed in Section A.

D. The vertical relationships of behavior segments.

We have distinguished six types of relationships between segments of behavior: integrated, contingent, algorithmic, repetitive, additive and perspective. These categories refer to either the relationship between two major episodes in the behavior stream record of one child one day, or to the relationship between two sections contained within one episode, or to the relationship between two phases of one section. In most cases the two related segments will occur sucessively in the behavior stream. There

will be some instances, however, where two segments separated in time will be related to each other, viz., when an episode is interrupted and then resumed at a later time.

An integrated relationship occurs when a string of segments, each different from the others, constitutes a whole such that the absence of any one of its segments would subtract from or compromise the effect of all the other segments. The intention of the inclusive segment would thus not be reached. The following examples will help to illustrate this type of relationship. In the episode "building a bird house," the sections "building the roof," "building the floor," and "building the feeder" are all integrated; in the episode "cooking a cake," the sections "mixing the ingredients," "learning how to measure one cup of something," "learning how to convert ounces into cups," and "baking the cake" are also integrated. In the first example, the intention of each section is the construction of a constituent part of the bird house. In the second example, the mastering of the measuring skills was necessary in order for the child to be able to make the cake.

A contingent relationship occurs when one segment is likely but not certain to follow another. The second segment will not happen if the first does not, but will not result everytime the first occurs. Consider this example. After "building an airforce," the child "plays with the airforce," and then "writes a story about the airforce." If the child did not build the airforce, he would not have played with it, nor written about it. Yet just because he built it does not mean he would have played with it or written about it.

An <u>algorithmic</u> relationship occurs when the subject applies, either explicitly or implicitly, a rule of procedure or operation to an appropriate class of problems. A series of addition problems on a math work sheet, or

writing a sentence for each spelling word, are illustrative examples of this relationship on the phase level.

a repetitive relationship occurs when the child does the same thing at least twice in succession. Writing the same letter or word twenty times is an example.

An additive relationship occurs when a segment of behavior is loosely connected to the adjacent segment only as a part that might have many substitutions. In a math lesson the sections "counting backwards," "solving three equations," and "participating in a recitation of addition facts," are additive. So also are the section "finding synonyms," "getting new spelling words," and "learning how to use the past participle" in the episode "participating in a language arts lesson."

A perspective relationship occurs when the subject compares where he is in relation to where other children are or in relation to where he has been and has to be. Often a child will stop working in a workbook and flip back through the book looking at what he has done, or he may glance at his neighbor to see what page or problems he has finished. These are both perspective phases.

Our analysis of behavior episode structure in terms of these types of relationships will hopefully provide a measure of the connectedness of a child's experience. Provisionally we can construe integrated, contingent, and algorithmic relationships as stronger that either additive or repetitive ones. Perspective relationships are a separate case. How often does each type occur, and when is each a part of the main or an alternative episode? At what level (episode, section, or phases) do perspective relationships occur? How does the occurence of a specific relationship, of any kind, at one level determine the occurence of the other types of relationships at adjacent levels?

Full answers to these and like questions will constitute the bulk of the analysis.

The relationship types were designed to apply to the main episodes of behavior, and to alternative episodes that last longer than a minute. The main episode is represented in the coded stream by the line to the left. (See Section A.) The alternative episode is a second intention that interrupts or proceeds simultaneously with (Permeating) the main episode. We will not apply this connectedness code to alternative episodes shorter than a minute. Neither does it seem appropriate to apply it to the relationship between main and alternative episodes. It will be applied, however, to the sections and phases within alternative episodes that, again, last longer that a minute.

The distinction between alternative and main episodes developed out of our earlier distinction between sanctioned and unsanctioned, or on task and off task episodes. We felt that this earlier distinction discriminated against the possibility of unsanctioned activity being more important to the child, or even to the teacher, than the sanctioned task, and possibly as productive for learning. Additionally, many episodes could not be coded as clearly sanctioned or unsanctioned, and often both sanctioned and unsanctioned, episodes were occuring simultaneously. We hope the distinction between main and alternative avoids these inadequacies of on task and off task or sanctioned and not sanctioned.

An analysis of the frequency of occurrence and length of alternative episodes will provide a measure of the directedness vs. diffuseness of the child's activity. A further analysis will investigate the relationship between the frequency of alternative episodes (1) standardized teacher (or teacher surrogate) reinforcement and differentiated teacher reinforcment,

and (2)the setting conditions. For the latter analysis we can apply the super setting codes of BORIS to episode initiations.

E. The horizontal relationships of behavior segments.

In section A of this chapter examples of the different kinds of episode overlap were given. A sustained episode is represented by a single solid line, and indicates that a single stream of activity is ongoing. An arrested episode is represented by a break in a solid line and the appearance of a second solid line either to the left or right, continuing for the length of the break. It indicates that one stream has been temporarily halted, and its setting maintained while the second stream proceeds. Finally a permeated episode is represented by two dotted lines and indicates that two episodes are occuring simultaneously. Without being able to operationalize our question fully at this time, we can say we have made these distinctions in order to ask to what extent alternative episodes interfere with or disrupt the fulfillment of a child's intentions, and to what extent they are compatible with or even enhance the fulfillment of his intentions. Our recognizing that certain episodes are interrupted and at a later time resumed, i.e., the child actually leaves or is removed from, and later re-enters the setting of the episode, will contribute to this analysis. It leads to the larger question of how various episodes are terminated, for example, in terms of the following alternative possibilities:

A. Task or activity completion

1. Task of activity completed.
2. Task or activity continuous.
3. Task or activity incomplete.

B. Product

0. No product.

1. Product saved.

2. Product abandoned.

An example of "task or activity continuous" would be working in a programmed workbook with no prescribed stopping place at a given time. The other coding options are self explanatory.

VII. ANALYSIS OF TEACHER BEHAVIOR STREAM RECORDS

Sally Kaminsky
Frances Aversa

Observation records of head teachers in each of the eleven classrooms observed to date have been organized, missing data tracked down, and poor quality tapes recovered through correction, checking with video tapes when the observations coincide, and replaying on slower speeds for more accurate information when needed. The actual state of the data, that is, the number of missing observational sequences, etc., can be reported after all processes toward organizing the data have been completed, but is is apparent that most are in good order.

During the phase of organizing the data, progress has been made in the development of procedures for analyzing the behavior of teachers, with special attention given to our interest in capturing the complexity of role enactment and in identifying and defining attributes of teacher behavior which distinguish roles from one another.

A two part analytic procedure has been adopted, one of episoding behavior stream observation records into segments of intentional behavior, the other of categorizing behavior in terms of role. Each is described below and the formulation of their relationship to one another, and the means by which they will be compared will follow.

Episodes of behavior (see explanation of the procedure in Section VI) will be analyzed for their duration and/or relative primacy as well as for their pervasiveness over time in different classrooms. One of the properties of behavior which seems relevant to questions regarding the relationship of teacher behavior to reciprocal/role analysis is that of permeability, that is, the extent to which the teacher's primary behavior admits intrusion

or parallel occurrence of other behavior. It is hypothesized that the degree of permeability of teacher behavior directly influences the latitude of pupil construction of reciprocal behavior. Episoding permits the discovery of this relationship in structural terms. The following distinctions are being made as we episode the behavior of the teacher over the day.

1. That behavior which remains contained and persistent without intrusion.

2. That behavior which occurs alongside another without the disruption of one for the other, i.e., two episodes of behavior which occur together without conflict.

3. That behavior which momentarily invades the central intention, but without destroying its maintenance, usually such that the teacher can hold the main event while she handles invading demands.

4. Behaviors which interrupt another to the extent that the latter must come to a stop, to be resumed or not, after the invading behaviors have ceased.

Examples of these differences in structure will be found in the section describing the Behavior Episoding procedure (Section VI.)

Episodes are further analyzed in terms of their organization or movement from their beginnings to endings, the subdivisions of which are discernible by occurrence of change in the direction of behavior of the teacher and the persons and/or objects with whom she commerces. (See Section VI on the procedure for phasing).

We expect that differences in the way in which episodes of behavior are organized will have a relationship to the complexity of roles assumed by the teacher and will reflect the teacher's expectations regarding the relative complexity of behavior in reciprocal pupil roles. Since our interest in

teacher role behavior is largely prompted by our concomitant interest in the opportunities and options which pupils have for developing a variety of role capacities, we will look to ways in which the teacher signals to pupils the expectations she holds for their behavior.

The analysis of behavior streams by episoding and phasing has progressed concurrently with the second method of analyzing teacher behavior. This alternative method has been one to which we had first committed ourselves, that is, to the investigation of behavior as it relates to or organizes itself around roles, and to the elucidation of role behavior in classroom settings from which actual data has been accumulated. By working directly with the same behavior stream observations of teachers which are being used in episoding, relationships between the results of the two analytic procedures are being sought. In the second approach, protocols of teacher behavior are read through, and judgments as to the role she is enacting are made by the coder. These judgments are based upon criteria similar to those used by Gump in setting analysis and relate to the pacing, grouping, and control over task, interactions, etc., exercised by the teacher in the behavioral setting. Revisions of the leadership categories developed by Gump were necessary as it became apparent that on-the-spot observer judgments did not reveal the qualities of difference in role behavior which one is able to discern when working with observational records or videotaped segments. The leadership categories, therefore, have been greatly refined, elaborated and/or combined and are presented in the following pages. The investigators plan a training procedure for coders so that a reliability check on role category coding can be submitted shortly.

The procedure used in affixing role categories to behavior has led to the differentiation of primary and secondary roles exercised by the teacher over

the day, and the occurrence of these roles and their primacy can be compared among teachers across the different programs under observation. While some roles are always primary, others are used differentially by different teachers, and explanations for differences in the uses of role will be made as we further analyze the data.

Following are the definitions of role behavior thus far developed.

Task or Activity Director

This is a primary role which involves systematic pupil recitation or performance on teacher command. Teacher gives directions, sanctions, and occasionally assists. Teacher's main function is to keep the activity going, e.g., game playing dependent on Teacher as leader or cue giver. But Pupils by turn do majority of talking or acting. Pupils may or may not have their own materials and may be present as a group or whole class. Task completion and pupil performance are interdependent.

Supervisor

As a supervisor, the teacher moves systematically from child to child in a group or whole class, checking written work, assisting if necessary, and assigning further work. Pupils are working on different items at their own pace and Teacher spends a limited amount of time with each Pupil. Teacher is totally involved with one child at a time and each Pupil's task progress is independent of every other's.

Expeditor

This is a secondary or tertiary role during which Teacher assist Pupil or Pupils toward completion or implementation of a task by verbal or mechanical intervention. The assistance is incidental to Teacher's primary role at that time.

Action Director

This is usually a tertiary or secondary role. It is characteristically of very brief duration and is described by Gump's a) "Teacher's talking is used to control Pupil's large muscle behavior" and takes the form of a verbal request or command. May be primary as when Teacher directs exercises.

Discussion Leader

Primary or secondary roles. Teacher directs the discussion as in "Task Director" role, shaping or even specifying topic. But unlike Task Director, the Pupil activity is always verbal and of an extemporaneous nature. Teacher may comment on individual Pupil's contributions but rarely makes "right/wrong" judgments about them.

Organizer/Planner

This is a pervasive role during which the whole class is present while the teacher sets up the tasks, procedures, etc. for the day or some part of the day. It often involves a recitation period during which pupils are asked to read, suggest, etc. what will occur during that day. Usually inherent in this primary role is the lesser role of task assigner.

Task Assigner

As task assigner, Teacher assigns tasks or portions of tasks to either the whole class, a group, or an individual. It is functionally directive.

Recitation Leader

Teacher wqks with either whole class or group. Primary function of Teacher is to ask questions either of an individual or en masse. Teacher comments on and judges answers, prods, assists. Teacher may have materials

and use materials, e.g., notebook, blackboard. Pupils may all have same materials.

Organizer/Material Preparation

This occurs as a primary role either when children are working independently, when an assistant is conducting a lesson, or for a brief period, during a transition. Teacher prepares materials for the next lesson, for this day, or for some future time. It may be a secondary role if it takes place while Teacher actively addresses Pupils in some other capacity.

Authority Presence

This may be either a primary or a secondary role. It describes Teacher's function almost consistently when her main role is that of Organizer/Manager, and always during a major transition. Teacher also functions in this capacity when an assistant is conducting a lesson to which a Teacher is merely silent, stationary or roving observer. Teacher is alert to misdemeanor and although basically closed to interactions with Pupils and often discouraging them, is available as an authority resource and sometimes in a limited way, as an information or materials resource.

Resource Presence

This occurs most frequently as a role secondary to that of Organizer and involves Teacher's openness to the whole class or to all but part of the class who may be strictly involved in a task. Teacher is available to field any comment, request, question, etc., initiated by an approaching Pupil. Teacher may be stationary or roving.

Watcher/Helper

Primary or secondary role which usually coincides with Teacher's attention to the whole class as they are involved in independent work or a lesson

conducted by an aide. Pupils are acting on materials and Teacher roves, (same/different distinction), stopping to prod and assist individual Pupils without Pupil request. (Teacher initiates help, information giving, checking.)

Behavior Control

This is a tertiary role whose duration is seldom longer than a minute or two. It includes only negative instances of control, i.e., disciplinary rather than positively reinforcing. It is usually directed to an individual but may also involve a group or the whole class. Behavior control may take verbal form of threat, solicitation, rationalization, or brief disciplinary command or comment, or the nonverbal form of a look, sign, or physical restraint.

Specific "Resource" Types

These are tertiary roles usually of brief duration and usually involving 1 to 1 Pupil-Teacher contact although it is conceivable that more than one Pupil might approach Teacher simultaneously with a joint request.

Information Resource	Pupil requests information pertinent to task or simply to his interest of the moment.
Material Resource	Pupil requests materials.
Authority Resource	Pupil requests permission or seeks Teacher's arbitration or decision making.
Reinforcement Resource	Pupil approaches Teacher to show her his work, usually a finished product simply to gain her approval or sanction. Pupil is not concerned with seeking help, direction, etc.

Task Regulator

Teacher functions in this capacity while working with a small group. Teacher tests the group on the same material informally. Pupils have their

own materials and supply written or oral answers. Teacher gives instructions, queries group and/or individuals in the service of facilitating both task procedure and content, i.e., watches and assists in recitation fashion and by verbal illustration. Teacher may also check the performance of each child and function as a resource/helper. Pupils are working on same task but progress of each is independent of others. Much of the Teacher feedback, however, is pertinent to all Pupils in group.

Instructor

Teacher may address herself to the whole class or a group. This is usually a primary but potentially a secondary role. Teacher relates task content facts or explains and clarifies instructions for task completion. Teacher does most of the talking but briefly and intermittently may use questions and answer format to check Pupils' understanding.

At present, the analysis of teacher behavior by the two procedures is revealing a high correspondence between episodic behavior and role designation, and while such a relationship is not unexpected (that is, role is conceived of as being influenced by intention) the existence of this relationship leads to some interesting possibilities for analyzing behavior.

Firstly, since the criteria for episoding require that judgments about changes in behavior be made strictly in terms of what the record reveals, free from theoretical concerns and/or inferences made from setting requirements, the process of episoding permits the investigator to find attributes of role behavior which are concrete and empirically based. The construct of role, relegated to highly theoretical terms in the literature, begins yielding to empirical conditions, thereby permitting the investigator to find regularities and differences among various clusters of behaviors which have

implications for the delineation of roles and for judgments about expectations existing in roles for pupil behavior.

Secondly, when there is a change in the direction of behavior of the subject (teacher), such that changes occur in the commerce she has with others, objects and/or task, (again all empirically based), one is able to ask questions about the qualities of such changes as they relate to changes in role designations.

The location of roles in relationship to one another along dimensions relevant for all roles will facilitate certain salient comparisons. Among these will be comparisons of teacher role behaviors which differ in their influence upon pupil choice and pupil control, and conversely, comparisons of pupil behavior and materials/task differences which modify or influence teacher behavior.

We expect that in using the two analytic procedures we will be able to come closer to a realization of the dimensions involved in role characterization, and will be able to assess the role behavior of teachers in different programs, and in different settings within the same program in terms of the variations which exist among teachers along these dimensions.

At present, the dimensions which seem to relate most powerfully to the theories about role, and to the empirical judgments made by the investigators in field observation are the dimension of authority (the nature of the authority relationship between the participants in the interaction), the dimension of orientation to other (the nature of the capacity of the participants to construct behavior and adapt to each other's expectations), and the dimension of objectification (the extent to which objects or tasks impose their own properties upon the behavior of the participants and modify or qualify the nature of that behavior).

It continues to be of central interest to learn more about the norms operating within classrooms and how these norms are signalled to pupils vis a vis teacher role behavior. We expect that clarification of the dimensions of role behavior will move us in this direction.

VIII. STUDY OF AN OPEN CLASSROOM FROM SEPTEMBER TO JUNE

David Jackson

CCEP is presently conducting a study of a third grade classroom on the lower east side of New York City. The study began on the first day of school in September 1971, and will continue throughout the school year. These continuous and regular observations will provide the opportunity for us to study a classroom's settings and individual behavior as they change during the course of the year.

Purpose: CCEP assumes that any classroom will change over the course of a year. The teacher or program director will require more from the students as they grow during the year. Some programs, for example, will require a continual acquisition of progressively more advanced skills, while others will ask the student to take more initiative in deciding what and how he will learn. The exact content of what changes are expected, and what specific abilities are considered essential will vary from classroom to classroom, but changes of some kind will occur in all classrooms. Not only will the demands on the student change, but also the behavior of individual students in relation to these demands will change. Some of those students who initially have to be reminded to put away their materials when finished, for example, no longer need to be reminded of this after two months of school. The present study is meant as a case history of the changes that occur in one classroom.

We are interested in describing certain specific attributes of the classroom. First there are those normative rules of behavior which apply to all or most of the subsettings that occur during the day. Often these rules are introduced and directly taught to the class early in the year, and become assumed and accepted as the term progresses. Many teachers feel that it is the early introduction and acceptance of these norms that make any sort of orderly functioning possible later in the year. Some examples of these norms

are how materials are distributed, how questions are answered in a large group, and how personal conflict is to be resolved. The uninvolved observer will also perceive other fundamental norms that are not explicitly articulated. While there may be a rule for raising your hand if you want to get the teacher's attention, there may not be an explicit rule about how much affection is usually expressed between students, and student and teacher. Yet in some classrooms there is a minimum of affection expressed by the teacher, while in others hugging and teasing children is the norm. Both of these types of norms apply generally to all subsettings in the classroom. Their existence and importance is most easily perceived when a classroom is observed over a period of time.

Secondly, we will try to describe how the structure of the subsettings change as the year progresses. The classroom we are observing can be described loosely as an "open classroom." An "open classroom" is one where, for much of the day, the children work by themselves or in small groups away from the direct contact with the teacher. Many of the decisions about what to do are made by the children. Our expectation and that of the teacher is that those subsettings which allow student decision-making will occur with greater frequency as the year progresses. It is our purpose to describe this development, if it occurs, in terms of both the structure of subsettings and the performance of individual children. Specifically, which dimensions of the subsetting will be the focus of our concern will be stated in the discussion of the observation methods.

Thirdly, along with the development in classroom structure is an expected development in the content of learning. Traditional achievement tests measure especially the acquisition of mathematic and language skills. Little effort is made to evaluate the extent to which the child learns to

employ more complex schemata in his thinking. Advocates of "open education" emphasize/that experiences in open classrooms provide the opportunity to solve problems which require the child to relate many concepts, draw conclusions, and organize his observations systematically. We hope to generate a method for analyzing the types of cognitive processes that a child is employing in solving specific problems. The work of Piaget and Guilford will be particularly helpful for this purpose. Further, we hope to describe the changes in the child's thinking over the year and relate this to concurrent changes in the structures of the subsetting.

Finally, the study will provide us with the opportunity to pilot test those instruments CCEP is developing for direct observations in both found and constructed learning environments.

Procedure: The classroom was chosen from among those classrooms which were part of CCEP's 1970-71 data collection. Of the several open classrooms observed last year, this classroom was considered the most competently run and most open. We were particularly interested in watching the changing norms in an open classroom, for it is an explicit goal of such a program to develop and encourage children to make decisions for themselves. Additionally, the success of many "open classroom" programs has been hindered in public schools by the difficulty of changing from traditional to "open programs." In terms of CCEP's theory, the transition from a classroom in which those subsettings where the teacher makes most of the decisions occur most frequently, to a classroom in which those subsettings where the children make most of the decisions occur more frequently, is quite problematic. The teacher in the selected classroom seemed to have successfully mastered this problem. Furthermore, the location of the school in New York City close to Teachers College made it an ideal choice for an extended study.

The teacher, Zina Steinberg, was very willing to participate. She had

done some research and writing on teacher attitudes toward classroom discipline and shared our interest in understanding the classroom as teaching social and physical norms as well as academic curricula. Miss Steinberg met with us several times during the summer of 1971 to plan the study.

The school, P.S. 42, is located on the lower east side of Manhattan. The school population is a conglomeration of mostly Chinese and Puerto Rican children with a few Black and White (mostly Jewish) children, virtually all of them from low income families. The class under observation consists of about half Chinese and half Puerto Rican children with a few whites. There are no Black children in the class. The general academic level of the class is high. It is the second class in the third grade and most of the children are reading at or near grade level.

The observation began on the first day of school. During the first three weeks, day long observations were conducted at least two days per week. Following that, observations were made one day each week, except for every fourth week when observations were made on two days. Each day two observers were present in the classroom. One observer has been present every week, and two others have alternated weeks. All three have developed a friendly rapport with the children and teacher in the classroom.

Six children were chosen as subjects for the study: three boys and three girls. Three of the children were with this teacher last year and therefore have had previous experience in an "open classroom." The other three were in a traditional second grade classroom. Four children are Chinese-American, two are Spanish-American. All speak English well.

Each day, a day-long record of the subsettings that occurred is made. A modified version of BORIS is used.

Each day, one half hour behavior stream record is made for each child.

At the end of the behavior stream record the observer either begins to participate with the child in his activity or simply interviews him directly. The general purpose of the interview is to ascertain what in the child's activity was perceived as problematic. The primary focus is the child's reasoning in the knowledge domain. In his explanation, does he relate isolated bits of information (count the number of blocks in two towers and decide which is bigger) or organize the information into a coherent pattern (classify a group of blocks into three intersecting subsets according to color, shape and size) or generate a system of concepts for understanding the information (generating the attributes and categories for classifying Indian myths and thereby helping to explain why Indians create myths)? In addition to ascertaining the complexity of the child's thought, the interviewer will attempt to elicit the child's statement of the criteria that were used in the judgments he made, and how these criteria were applied. Why does he think, for example, that his classification of the blocks is the right one? Both the judgment ratings and content analysis contained in JURIS will aid this analysis of these interviews. What questions or actions would best reveal this information is still the subject of experimentation. When to intervene, what to say, and what role to take are all still problematical for us. We hope to develop a valuable participant-observer method as the result of this study.

Miss Steinberg is interviewed weekly concerning significant events that occurred while the observers were absent, those changes she has noted in performance, both academic and social, and those changes she is planning to make and the reasons for them.

Pictures of the classroom are taken weekly to help describe the physical changes that occur.

All the work and products of the six subjects is either photographed or collected. This includes stories, tests, paintings, displays and constructions.

Each observer takes hand notes of examples of those general norms that apply to all the subsettings in the classroom.

Frequently, an observer will have the opportunity to become fully involved with a child or group of children during part of the day. These events range from helping a child to spell several words for a story, to playing chess, to building a model of the Brooklyn Bridge with milk cartons. These situations are also a useful source of information and are carefully recorded.

Anticipated Results:

1. A description of the changing structures of the learning environment over the course of the year. This description will be given in terms of those constituent dimensions of the subsetting described by BORIS. It will be substantially enriched with the information available in the pictures of classroom.

2. A concurrent description of how the complexity of the six children's thinking, in terms of cognitive operations, changes over the course of the year. This description will result from an analysis of the behavior stream records, interview data, anecdotal records, and the children's products. Episoding the behavior stream records and identifying the subsettings in which the episodes occurred will enable us to relate a content analysis of the child's thought to the structure of his behavior over time and the structure of the subsetting. The evaluation of the relation between the complexity of certain cognitive operations, their integration within certain structural behavioral patterns, and their occurrence in certain subsettings

is a method for characterizing the child's experience of the message of the learning environment. An analysis of the subsetting, in terms of BORIS, is especially appropriate for characterizing the social and physical demands of the environment in CCEP's theory, and the episoding structure and content analysis are especially useful to characterize the knowledge domain. The determination of the relation between these two domains, in terms of the above mentioned specific measures, may potentially provide teachers and program designers with a procedure for choosing teaching strategies appropriate to specified learning goals.

3. A participant-observer method of observation adequately suited to gaining insight into the complexity of the child's reasoning at the time of observation.

4. A description of those norms necessary for the basic functioning of this classroom. Our interpretation of those norms in conjunction with the results obtained from the analysis described in parts 1 and 2 will provide a fuller characterization of the message of the social domain of the learning environment. What the child learns about accommodating to the rules of behavior appropriate to specific types of social organization, and what those behavior patterns mean for him, will hopefully become more explicit as a result of this analysis.

A concluding note concerning the limitations of the study is necessary. Each of the results described below pertains only to the one classroom observed. The study is a case history, and as such provides only an example of how to study a classroom over time. To the extent that an adequate description of the changes in the classroom has been provided, a procedure for allowing researchers and teachers to become aware of and influence these changes will have been generated.

IX. THE JUNE, 1971 PILOT STUDY TO TEST THE CONSTRUCT VALIDITY OF THE PUPIL ROLE INTERVIEW AND CODER RELIABILITY

Joseph B. Roberts

- with -

Nancy Gropper
Leonard Huber
Carole Oligario

We will report on the June, 1971 pilot study testing the construct validity of the Pupil Role Interview and coder reliability. Roberts discusses the constructs possibly accounting for interview performance and derives hypotheses from Cognitive Developmental Theory involving these constructs in his dissertation proposal relating to A Developmental Study of the Pupil Role. This proposal appears in Appendix A of this report. The process of conducting the pilot study with 42 first, third, and fifth graders included eight main steps: (1) obtaining permission from school officials and parents to conduct the study, (2) securing information about the pupils in the sample, (3) conducting the interview, (4) establishing coder reliability, (5) coding the data, (6) analyzing the data, (7) interpreting the results of the analysis according to Cognitive Developmental Theory, and (8) testing and adjusting the revised form of the Pupil Role Interview.

The most important step of all was establishing coder reliability. Without it, the collection of the data would have been in vain, and the Pupil Role Interview research team would not have been able to proceed with the remaining steps in the study. Establishing coder reliability entailed several substeps, one of which was conducting orientation sessions with the research team and Leland Van den Daele, the author of The Ego Development Précis, a preliminary global guide used to code the Pupil Role Interview data. The purpose of these sessions was to become aware of three

sources of error in coder reliability: (a) the data itself, (b) the guide to code the data, and (c) the coder.

In regard to the first source of error, we tried to distinguish between pupil responses which were basically descriptive and those responses which had sufficient evaluative elements. The former responses were deemed uncodable and the latter responses codable. In terms of the second source of error, we tried to understand the criteria Van den Daele uses in assigning responses to a given level of ego development. At first, we tried to do this with the use of his Dimensionalized Characteristics of Ego-Ideal Development (Devised from Grouping and Analysis of 158 Protocols) and his Précis of Ego-Ideal Development, presented in his paper published in 1968: A Developmental Study of the Ego-Ideal. Later, we tried to do this with the use of his preliminary Ego Development Précis.

Through successive attempts to understand the criteria for coding the data and through several sessions with Van den Daele at Educational Testing Services in Princeton, New Jersey and at Teachers College, Columbia University in which he refined with us the criteria for a global rating of the Pupil Role Interviewee's responses, the research team developed the ability to rate these responses, with the use of Van den Daele's coding procedure.

The first step in the coding procedure is to identify tentatively a response unit. This unit consists of a response to a question and the responses to probings of that question. For example:

Q. You're shaking your head yes. Everyone learns to read that way. Why do you learn to read in school?

A. Because then you won't be smart...because you be smart.

Q. And why do you learn to be smart?

A. So you can read better.

The second step in the coding procedure is to identify the cognitive

stage: preoperation, operational, formal operational, and "advanced" formal operational. We agree that the above response unit is on a preoperational level. This response unit suggests the notion of finalism, imputing the cause to the effect and indicates no stable hierarchical mode of classification and no verifiable hypotheses. These criteria reflect some of the characteristics of the preoperational stage of cognition: levels 1, 2, and 3 of ego development. If a rater fails to identify the cognitive stage, the response unit must be noted with a question mark and the unit itself must be enlarged with previous or subsequent response units providing additional information to make a judgment.

The third step in the coding procedure is to identify whether or not the dominant focus is on a subjective experience, or on the instrumental relations of the self to various ends, or on some formulation of an objective order. These types of dominant foci correspond to generalizations of the cognitive levels (pre-operational, concrete operational, formal operational, mentioned above, which are hierarchical and cumulative. The response, "I don't know," would not have been codable, because it fails to indicate a preferential judgment. A stage 1 response to the question, "Why do you learn to read in school?", would have been, "Because I want to or because I need to." The child's response, "So you could read better," indicates some naive gain or payoff: stage 2; and the response "Because then you won't be smart... because you be smart," indicates an apparent non-hierarchical class inclusion: stage 3. This response unit is therefore coded 3/2, suggesting a transitional response unit.

A stage 4 response to the above question would have been, "I liked reading about sailboats, when I was making one in class;" a stage 5 response would have been, "Reading about sailboats helped me to learn how to make one that

don't fall over as easy as the first boat I made."; a stage 6 response would have been, "I learn to read in school, because I don't want my friends to think I'm stupid."; if the rater cannot identify the dominant focus, that person must return to the response unit in order to note it with a question mark, until a pattern is perceived.

In order for the reader to understand better how the coders made use of Van Den Daele's coding procedure, I am enclosing a copy of his first draft of The Ego Development Précis. I am also enclosing a 3 by 4 matrix of the 12 stages in Van den Daele's interpretation of ego development. During the course of our coder orientation sessions which he conducted, he has also provided us with the characteristics of each of the Piagetian cognitive stages as they relate to ego development. These characteristics with more rigorous criteria for differentiating response units in interview protocols will appear in his forth coming draft of the Ego Development Manual.

In regard to the third source of error, the rater, the Pupil Role Interview research team conducted three coder reliability trials, after which we concentrated on those items in which three out of four raters agreed on the stage to which a response is to be assigned. In each trial, each member of the research team discussed the criteria used for rating a given response unit until the deviant rater or the group understood the criteria for that response unit and how they applied to a reasoning pattern characteristic of the pupil.

In order to avoid any systematic bias in establishing coder reliability, we randomly selected six interviews to be coded; Phyllis Noll, our secretary, removed information from the six interviews identifying the name, grade, and class of pupil and randomly selected the order in which raters code the interviews.

Next, we bracketed and numbered responses to a given question. It was essential that this was done accurately in order to later compare the agreements or disagreements within and between pairs of coders.

We then coded the interviews by identifying the response unit, the cognitive stage, and the dominant focus of the response unit. Our experience in coding taught us that there are some problems in this process to be avoided. Sometimes, we assumed from a first response that all the interviewee's responses are of one cognitive stage rather than making the judgment on the basis of each response unit. At other times, we failed to discern when the interviewee is imputing causality to irrelevant factors, a characteristic of the pre-operational cognitive stage. Still, at other times, we failed to distinguish the dominant from the subordinate focus of the interviewee's response unit in terms of subjective experience, the instrumental relations of the self to various ends, or some formulation of an objective order. In short, we learned that in order to decide the cognitive stage and the dominant focus of a response unit, a whole series of subjudgments relating to each one of these major decisions have to be made. Intuitive impressions will not suffice.

Once the six interviews were coded, we established the percentage of agreements. This was a straightforward statistical procedure applied to a given interview in where there were two pairs of coders. In three coder reliability trials, the research team progressively increased coder reliability in terms of coding response units: the first trial 67% agreement, the second trial 71% agreement, and the third trial 79% agreement. In each of these trials, we selected at random and used different interviews. However, coder reliability in terms of coding modal levels of interviews in the third trial was 91%. This was important to notice, because we will analyze the data from the spring study in terms of both modal levels of interviews

and response units. I also would like to note that we will make use of both the conservative statistic -- percentage of agreements -- and the liberal statistic -- correlational analysis -- to re-establish coder reliability in the spring study, for they yield different but related kinds of information.

Based on our experience in June, 1971, we will revise our methods for establishing coder reliability during February of 1972 for the spring study. At this point, there may be four additional coders to train. By then, we will have Van den Daele's version of the Ego Development Manual, which will include classical examples of each stage of ego development. That is, our new coders will have abundant and classical examples of each ego stage by which a given response unit from our spring, 1972 data can be compared. With this manual and three trained coders, orientation sessions will be conducted, in which each new coder will take the role of an apprentice coder under the direction of an experienced coder other than myself, since I will be in the field supervising the collection of the data. While conducting these orientation sessions, the three experienced coders will be on call ready to respond to interviewers faced with unexpected problems in the collection of the data and coordinate my spot checks of these interviewers accordingly. Basically, the three experienced coders will conduct interim reliability trials and use them as bases for clarifying expected procedure until coder reliability is established. Once the data has been collected, then, I will also re-establish my coder reliability.

Establishing coder reliability was the fourth and most important step of the process of conducting the June, 1971 pilot study with first, third, and fifth graders. The first main step in this process was obtaining permission from school officials and parents to conduct the study. Joseph Grannis and

I arranged to meet with Dr. Herbert Shapiro, the Principal of Public School 152 in Brooklyn, New York. At this meeting we requested his permission to conduct the study in the school in order both to develop The Pupil Role Interview and to determine the relationship between pupil ages and pupil role development. After describing what the pilot study entailed, I received his permission to conduct the study under two conditions: I must obtain the permission of both parents and teachers. In order to secure the permission of parents, I wrote a letter to them with the authorization of the principal with the use of his name.

We have concluded from our experience in Public School 152, that we used an unsystematic procedure for obtaining permission from both parents and teachers to interview their children. First, I failed to ask for information about the occupations of the parents in the letter, because I did not realize at the time that this information was lacking in the pupils' records and that school officials wanted us not to ask pupils for this information to avoid being suspected of "prying." Second, in our attempt to explain the purpose of the research project as indicated in the letter to the parents and the characteristics of pupils required in the sample and to secure the permission of teachers to interview some of their pupils, we distracted a <u>few</u> of the teachers from their classes, and as a result, we precipitated some deterioration of order in their classrooms. Third, our attempt to send the letters to parents with their children caused unnecessary delays. Many of these children alledged to have lost the letters or to have forgotten to give them to their parents.

From this experience, I would revise the methods for obtaining permission from school officials and parents to conduct the Pupil Role Interview Study in the following ways. First, I would prefer to write a letter requesting per-

mission from these groups at each host school in Project Follow Through to conduct the study in their schools. In this letter, I would like to advise these groups of a procedure to select randomly 40 of their third grade pupils. Not knowing how to anticipate how many parents will not want children to participate in the Pupil Role Interview, I will consult with Stanford Research Institute about this matter. After the pupils have been selected, I will then write a letter to their parents requesting permission to interview their children, giving a rationale for wanting to do so, and asking for information concerned with the parents' occupations. I would like to see this step of the process for conducting the spring study completed by January of 1972.

Securing information about the pupils in the sample was the second main step in the June, 1971 study. As Nancy Cropper has written,

> Data desired on subjects in the June, 1971 pilot study were reading test scores, chronological age at time of entrance to first grade and parental occupations. We were able to collect information on some of the subjects, at the time of the interviewing in June, 1971. However, interviewing was taking place during the last two weeks of the school year and the information we desired was on record cards, which were not available in the principal's office nor readily available in the classrooms, as teachers were preparing to close their rooms for the summer.
>
> As a result, we did not get complete information on all subjects, which necessitated returning to the school in the fall, 1971. At that time, most of the needed data was available on two separate sets of cards in the principal's office. However, parental occupations were not recorded on these cards nor on classroom teachers' record cards. The assistant principal of the school felt it was unwise to ask teachers or children for such information, as parents who heard about it might perceive this as "prying". As a result, we limited ourselves to obtaining reading test scores and chronological age at the time of school entrance (determined by birthdate and date children entered first grade). The two sets of cards in the principal's office did not offer such information for all subjects (i.e. did not give date of entrance to 1st grade for children who previously were enrolled in another school.) It thus became necessary to track down the classroom the child was currently in, in order to get this information from the teacher's record card.

Alterations in obtaining needed data can be planned for this year's study in order to avoid the problems noted and to test the following "Exploratory" hypotheses: the relation between achievement test scores and pupil role development levels will be near zero and not significant; and the relation between socio-economic class and pupil role development will be positive but not significant when the population is relatively homogeneous socio-economically. It is hoped that the Standord Research Institute will be able to provide us with pupil achievement scores, the dates tests were administered, and parental income. We will obtain information from parents about their occupations and the chronological age of their children at the time of entrance to first grade.

This kind of information needed to determine socio-economic status and pupil achievement can be requested on the permission slips that will be sent out to parents. It may be necessary to indicate that the offering of this information is optional, in the case parents refuse to allow their children to participate in the study merely because they do not want to provide this information. By obtaining this information directly from parents, we can avoid problems that might occur if school personnel feel that such information is priveleged.

All information collected on available subjects will be recorded on index cards, (one for each child) which will be filed alphabetically according to center. Other information can be recorded here also (i.e., tape numbers, interviewer's name, date of interview, child's class, sex of pupil and teachers),once the interviewing has begun. This will make information on any subject readily retrievable.

By obtaining the data needed on all subjects, prior to the onset of interviewing, we can avoid the possibility of losing any information due to attrition of subjects after the time of interviewing.

The third main step in the process relating to the June, 1971 pilot study was conducting the interview. In this phase of the study, we also encountered several problems. Interruptions in the areas for interviewing were common. Some of the interviewers were assigned to teachers' lounges, but some teachers were not advised of this assignment. A few interviewers were assigned to assistant principal's offices, but these spaces were sometimes needed by teachers for various and sundry reasons. Other interviewers were assigned either to spaces with objects that distracted the children being interviewed or to areas adjacent to places being renovated or repaired, so noise was a problem at times. All of these conditions were

either unexpected both by the interviewers and the school officials or could not have been avoided without previous planning.

Also, we failed to have a system coordinating the teacher's and the interviewer's expectations about the order in which a pupil would be interviewed, thus causing unneccessary interruptions of classroom activities. Furthermore, because of the inordinate length of the interview, some interviews failed to probe many evaluative responses made by pupils.

Based on this experience, some of the members of the research team will take primary responsibility for improving the way in which the interview is conducted. I will take the primary responsibility for obtaining comparable office space for interviewing. CCEP could request that the host school not only provide comparable, private space for interviewing but that the school explain to its faculty and staff, the presence of the interviewers, the rationale for the study, and request whatever accomodation is possible. With the help of my statistical consultant, Jane Monroe, I will also take primary responsibility for working out a procedure by which the host schools would randomly preselect the pupils to be interviewed and make up a list of the order in which they will be interviewed, with provisions for an alternate order in case of pupil absence. Copies of this list could be retained by the principal's secretary and the pupils' teachers in the host schools, by the interviewers at the given geographic sites, and by CCEP in New York City.

Carole Oligario will take primary responsibility for conducting a small scale, informal study simulating the actions of the interviewers upon arriving at a host school: notifying their presence to the local principal and to the local director of Project Follow Through; going to the interviewing area in the schhol; removing or covering any distracting objects in that area;

picking up a child in his classroom; establishing rapport with the child enroute to the interview area; explaining the ground rules for the interview to the interviewee; recording demographic data about the child on the interview schedule; conducting the interview; escorting the interviewee back to class; repeating this process with other interviews; recording legibly the exact responses of the interviewees in long hand on their interview schedules; packing the schedules and the tapes in boxes provided by CCEP; sending these boxes to CCEP by registered mail; and confirming with CCEP that the boxes were received and the demographic and interview records were in proper order. This informal simulated study with The Pupil Role Interview and The Ego Development Manual will then be the basis upon which Oligario writes the Interview Manual. It could also be the basis for producing a video tape to help train the interviewers.

The fifth main step in conducting the June, 1971 study was coding the data. After checking the Pupil Role Interview protocols, we concluded that there is a need to establish an accounting system for the taped interviews and the typed protocols. Of the 42 interviews, two were incomplete due to the inability of the subjects to answer the questions. Two of the interview tapes were not typed as yet, and six interviews were unaccounted for.

The checking of the protocols being completed, we then gave 32 protocols to our secretary, Phyllis Noll, who then removed information identifying name, grade, and class of pupil. This was important to avoid coders using this kind of information to assigning higher ego development ratings to pupils in higher grades and lower ego development ratings to pupils in lower grades.

Noll later distributed equal numbers of interviews to be coded to Gropper, Huber, Oligario, and Roberts. This step avoided anyone of us coding interviews from a single grade or by a single interviewer..

The sixth main step in the June, 1971 study was analyzing the data, with the help of our statistical consultant, Jane Monroe. We first reviewed the questions that we originally wanted to answer:

1. What is the relationship between the age of pupils and their levels of pupil role development? Van den Daele's 1968 study of ego development finds that it is a function of age. I interpret the pupil role development construct to be a part of the ego development construct. Therefore, I hypothesize that the relation between the age of pupils and their pupil role development will be positive and significant.

2. What is the relationship between socio-economic status and levels of pupil role development? Since I make use of Van den Daele's 1968 study as the ground to support an ego developmental view of pupil role development, I also make use of his definition of ego development being a device for making preferential judgments. I assume that children from middle-and-high socio-economic groups, using parental occupation as an index, will have greater opportunities for making preferential judgments than children from the lower-middle and low socio-economic groups. Therefore, I hypothesize that the relation between socio-economic class and pupil role development will be positive and significant. When the socio-economic population is relatively homogeneous, I hypothesize that this relationship will be positive but not significant. However, since information about the occupations of pupils' parents was not readily available, in the June, 1971 study, we cannot analyze this relationship.

3. What is the relationship of sex similarities between pupil and teacher and levels of pupil role development? There appear to be relatively few powerful or glamorous males or models both in and outside of school for lower

class males from minority groups. On inspection, school is basically a feminine institution, lacking competent, appropriately sexed adult models for lower class males from minority groups. Therefore, I hypothesize that the relation of sex similarities between pupil and teacher and levels of pupil role development for lower class males from minority groups will be positive and significant. However, since the sex of the teachers in the June, 1971 study was all female, we cannot analyze this relationship.

4. What is the relationship between ego-ideal levels and ego-norm as learner levels? The ego-norm as learner contract is more inclusive than the ego-ideal construct. This construct just reflects imaginative knowledge whereas the ego-norm as learner construct reflects both given and imaginative knowledge. Also, given the case that there will be more ego-norm as learner questions than ego-ideal questions in the Pupil Role Interview, I hypothesize that there will be a higher frequency and more varied distribution of modal levels relating to ego-norm as learner response than to ego-ideal response units, the implication being that the ego-norm as learner construct will be a more powerful construct to differentiate pupil groups in experimental programs in Project Follow Through. I also hypothesize that the relation between ego-ideal levels and ego-norm as learner levels will be positive and significant, since both constructs pertain to the ego defined as the device for making preferential judgment.

5. What is the relationship between achievement test scores and levels of pupil role development? This is an "Exploratory"question. There is a relationship between achievement test scores and levels of ego development (and by extension pupil role development) at the formal operations cognitive stage beginning in sixth grade groups of pupils from middle-and-high socio-

economic class groups, as indicated in Van den Daele's 1968 study. But, I will study pupils from groups below the sixth grade. Therefore, I hypothesize that the relation between achievement test scores and pupil role development levels will be near zero and not significant. Although information about pupil achievement test scores was hard to get in the June, 1971 study, I will try to make use of this "Exploratory" hypothesis as formulated above, in the spring study for Project Follow Through.

Reasoning from Van den Daele's interpretation of ego development theory, I predicted that pupil role development will in part be determined by the age of the pupils. By using grade groups to indicate pupil age and by using modal levels of the Pupil Role Interview to indicate pupile role development, I have the measures of the pupil age construct and of the pupil role construct. When I look at the most frequent modal levels circled in Table 1 presented below, there does not seem to be a comparison between pupil role and pupil age. Nevertheless, when I look at the distribution around the most frequent modal level, I do see a comparison between these two variables. This trend compares favorably with Van den Daele's data presented in Table 1b, although there is less variation of modal levels around the most frequent modal levels in our study than in Van den Daele's study for four possible reasons discussed in the following section of this report.

Table 1: Modal Response for the Pupil Role Level by Age Group

	Grade Group		
Level	1	3	5
1	0	0	1
2	2	0	0
3	8	10	5
4	0	0	1
5	0	1	4
6	0	0	0
N =	10	11	11

Table 1b: (Van den Daele's 1968 Study)
Per Cent Distribution of S's Modal Levels by Age Group

	Grade Group			
Level	Nursery	2	4	6
1	37	0	0	0
2	53	6	0	0
3	10	44	35	5
4	0	50	47	45
5	0	0	18	40
6	0	0	0	5
7	0	0	0	5
N =	18	18	18	18

Furthermore, as another measure of pupil role development, I made use of the modal levels of response units relating to the ego-norm as learner construct. The reason for this was that 13 protocols had the same modal level for both the ego-ideal and the ego-norm as learner constructs. Only 5 of the ego-ideal response units had a distribution similar to that of the ego-norm as learner response units, so 8 of the 13 ego-norm as learner response units tended to vary more from the modal response than the ego-ideal response units.

I would like to note two points about this. (1) One explanation of this is the fact that the June interview obtained far more codable responses for ego-norm as learner questions than for ego-ideal questions. A revision of our questioning and probing technique will increase the yield of codable responses for both types of questions, but this still will not eliminate differences in variation as a function of sheer number of responses. (2) The direction of skewing of ego-norm responses, is likely to be the most sensitive indicator of the influence of different classroom environments on ego-norm as learner.

Thus, given comparable classroom environments, this variation might tend to be below the mode for the first grade, in a transitional state for the third grade and above the mode for the fifth grade as suggested by Table 2 below. However, given classroom environments in which quite different norms for learning are signalled to the pupils, one would expect to see systematic disturbances of the age-related skewing trend. This will be a key mode of statistical analysis to help distinguish the differential influence of various learning environments upon pupil role development in the third grade for the spring, 1972 study.

Table 2: Per Cent Distribution of Response Unit Relating to Ego-Norm as Learner Modal Response Level 3

Grade:	N	Below Mode	At Mode	Above Mode
First	1	13%	87%	0%
	2	0	87	13
	3	35	65	0
Third	4	0	94	6
	5	21	78	7
	6	20	80	0
	7	13	80	7
	8	25	32	43
	9	12	70	18
	10	6	47	47
Fifth	11	0	68	32
	12	0	91	9
	13	0	50	50

Let me now illustrate a second key type of analysis. After noting this possible trend, I re-read these 13 interview protocols, asking the following questions: Is there any difference in the affective tone of different pupils' protocols whose modal response for ego-ideal and ego-norm was stage 3? What do I mean by affective operationally? Do I mean subjective experience of these pupils corresponding to stage 1 or 4 in Van den Daele's Ego Development Précis may be subordinate focus of their response units? The answer to the last question was in the affirmative. As a result of re-reading these protocols, I noted that first graders tended to make subordinate stage 4 responses reflecting some statements about the self's pain that corresponds to an event relating to school while fifth graders tended to make subordinate stage 4 responses reflecting some statements about the self's pleasure that corresponds to an event relating to school. Note the differences of the pupils' emphasis on pain or pleasure characteristic of stage 4 responses in the following excerpts:

First grader:

Q: Okay. You told me about the school you would like to go to, about how you'd learn hockey and what the rules would be. Is there anything you would like to change in the school you're in now? Yes, what?

A. That we could have a swimming pool.

Q. Do you like to have a swimming pool?

A. Inside the school --

Q. Could you get a swimming pool in this school?

A. No.

Q. Why not?

A. _____ will yell at me.

Q. Well, how could you get _____ to let you have a swimming pool?

A. Umm, I don't know.

Q. Couldn't you get to have a swimming pool somehow?

A. No.

Subordinate and weak Stage 4: response negative

Q. Why not?

A. He'll yell at me.

Q. Why would he yell at you?

A. Because _____ wouldn't want a swimming pool.

Q. Why wouldn't _____ want a swimming pool?

A. I don't know...

A Fifth Grader:

Q. Well, why would you stop when you finish the paper? Couldn't you get another, keep on going?

Subordinate Stage 1: response positive

A. If I wanted to.

Q. So why will you stop?

A. Cause I've finished...I have to check it over, and then I stop. And like she tells us to stop and like even when we're taking a time test, she tells us to stop, that's enough to go over it.

Q. And you stop when she tells you to?

A. Sometimes, yeah.

Subordinate Stage 4: response neutral

Q. Okay. Why do you stop when she tells you to?

A. Cause I don't -- like, if I'm finished, I don't want to -- like_____.

Q. What if you're not finished and she says stop, what do you do?

A. Uh, I stop.

Q. Why?

A. Cause she said to stop and then if she calls on me and I'm still doing my work...

Q. What would happen?

A. I would tell her like, I'm not up to that or something, and she'd say to do it now, like --

Q. But you're not finished with it, why do you stop?

A. Cause she says to, uhm, she told us --

Q. Why don't you keep on working?

A. Cause like, we have to do other things too.

Q. Why do you have to do other things?

Subordinate and weak Stage 4: response positive

A. Cause like if we finish one thing, like. like, see,we have an open classroom and if we finish the language fast, like, we can do the open class.

Q. You like the open class?

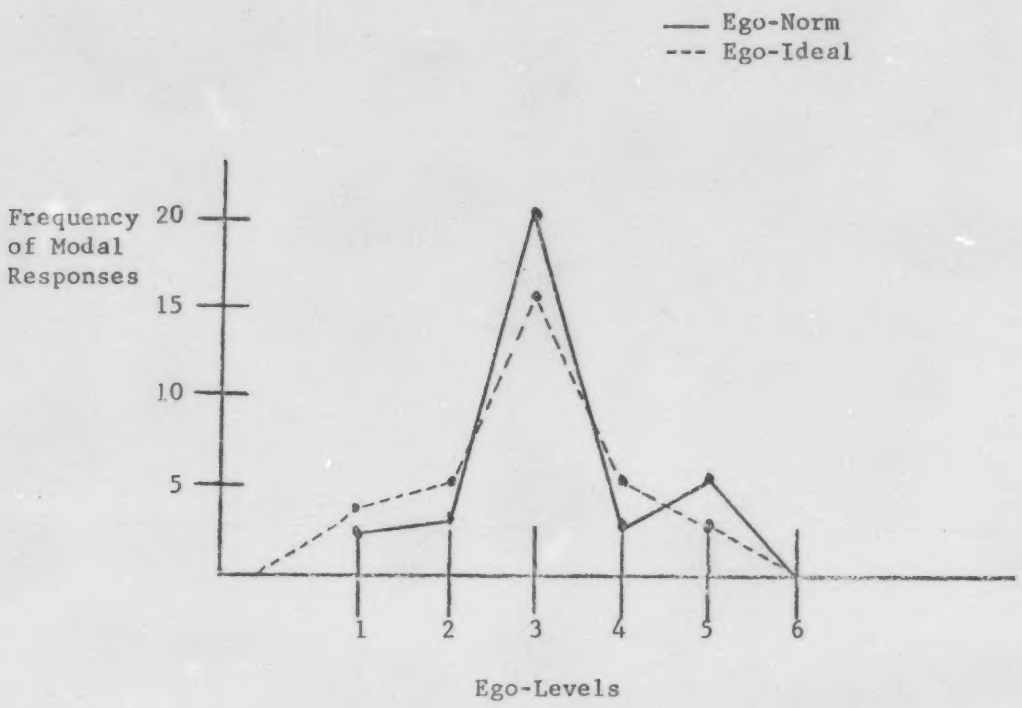
A. Yeah.

I am using these subordinate examples of stage 4 responses as heuristics to analyze possible ways of differentiating pupils from different classroom environments with the same modal responses. This type of heuristic is compatible with Cognitive Developmental Theory. In Van den Daele's 1968 study, he says that according to Baldwin, the affective components of cognition furnish the impetus for change in the person's world view; --- that the self-ideal "...is the issue of an intrinsic movement of affective cognitive process in a new synergy and self-status...." In order for me to do this kind of analysis for the spring, 1972 study, it will be especially important for coders to not only code the modal response of a response unit but also the subordinate responses of that unit, so that I can discern whether the subjective experience of the pupil emphasizes pain or pleasure, whether the instrumental relations of the self to various ends emphasizes intrinsic or extrinsic instrumental relations, and whether or not the pupil's formulations of an objective order relate to reference groups he approaches, or reference groups he feels compelled to conform to.

Reasoning that since both the ego-ideal construct and the ego-norm as learner construct pertain to the ego defined as the device for making preferent

judgments, I predicted that these two constructs will be related. The modal levels of response units in the first and third parts of The Pupil Role Interview indicated a measure of the ego-norm as learner construct, and part two of this interview indicated a measure of the ego-ideal construct. Their relationship is substantial as shown in Table 3 presented below.

Table 3: Frequency Polygon for Ego-Norm as Learner Levels and Ego-Ideal Levels for all Subjects



The seventh main step in conducting the June, 1971 was interpreting the results of the analysis according to Cognitve Developmental Theory as it relates to the self and the ego-ideal.

Pupil Age and Pupil Role:

Van den Daele's theory of ego-development guides me to expect that there will be a relationship between age and ego. Since the pupil role as measured by the ego-norm as learner construct and the ego-construct both in part pertain to the ego as a device for making preferential judgments, then I expected the pupil age and the pupil role to relate to each other, the ego-norm as learner construct being differentiated from the ego-construct by the former reflecting both given and imaginative knowledge and the latter only reflecting both given and imaginative knowledge and the latter only reflecting imaginative knowledge. Table 1b indicates that they may substantially relate to each other. Therefore, I infer that the hypothesis is confirmed, with qualifications. These qualifications refer to four possible reasons that may account for the lack of hetereogeneity of modal pupil role responses shown in Table 1b of the previous section of this report.

The first and weakest reason may be that since the third level of the pupil role seems to be the median score, the pupils in the sample from Public School 152 seem to reflect their classroom environments primarily as ones in which there are categorical regulations eliciting probably an orientation to the authority of the teachers. I do not consider this reason to be sufficient, because 19 out of 32 subjects had the same level of development for ego-ideal and for ego-norm as learner. I would expect the classroom environment to influence less the construct of ego-ideal than the construct of ego-norm as learner, since this construct reflects both given and imaginative knowledge in a social environment and the ego-ideal construct reflects only

imaginative knowledge not primarily determined by any one specific environment.

A second reason that may account for the lack of heterogeniety of pupil role responses may be that the coders of the interview protocols with the use of Van den Daele's presently more rigorous criteria for rating response units as stage 3 which would have been previously classified by him as stages 4 or 5. That is, I assign the response, "I don't want to get in trouble," to stage 3. In contrast, I assign the response, "I don't want to get in trouble, when the teacher tells me to stop reading. When she tells me to stop, I stop," to stage 4. One criterion for assigning a response or a response unit to stage 4 is some explicit statement about the self's pain or pleasure that corresponds to an event.

From this situation, I assume that there may be two possible sources of error: the coders and the coding criteria. In order to test this assumption, I will re-analyze the June, 1971 Pupil Role Interview Response Data in the following ways. First, I will analyze the common characteristics of ego-ideal and ego-norm as learner response units which have been assigned to the same modal level, and second I will analyze whether or not some of these common characteristics are absent in ego-ideal and ego-norm as learner response units which have been assigned to different modal levels. If there appears to be no difference in these characteristics as they apply to different levels of ego development or if raters use these differentiating characteristics inconsistently, then I will temporally assume that the source of error may be the rater. This belief will be tested by collecting classical examples of these instances and by asking the raters to both code them and justify their use of criteria in assigning response units to various level of ego-development. If the raters disagree on the criteria, then this fact lends

additional support to the belief that the source of error may be the rater. However, if the raters disagree on the rating of response units but agree on the criteria based on different interpretations of the criteria, then I will conclude that the source of error may be the inadequacy of the coding criteria. To help me do this kind of analysis, I expect to consult with Van den Daele and make use of his forthcoming Ego Development Manual.

A third possible reason that may account for the lack of heterogeneity of pupil role responses may be The Pupil Role Interview. Huber will do a question by question analysis of the interview protocols to see which questions elicited more varied modal levels for response units than other questions.

I have already constructed a revised Pupil Role Interview Schedule that may more adequately differentiate pupil role development as a function of age than the Pupil Role Interview Schedule used in the June, 1971 study. The basic rationale for this revised form is as follows. I use ego development to interpret pupil role development. Since the ego is a device for making preferential judgments, I want to ask questions about the sources of authority in the classroom which may influence the making of preferential judgments and which may differentiate one classroom environment from another and one grade group from another. I consider these sources of authority to be Parents, Teachers, Classmates, and the Self. For each of these sources of authority, there are questions relating to the subjective experience, the instrumental relations of the self to various ends, and some formulation of an objective order in terms of Van den Daele's forthcoming Ego Development Manual. These questions respectively relate to the physical, knowledge, and social orders of classroom environments in terms of CCEP's observations and theoretical formulations. Moreover, these questions parallel role taking variables: similar responses of pupils will indicate common experiences;

the instrumental relations of the self to various ends will indicate common means-ends relationships; some formulation of an objective of an objective order will indicate the comparibility of these role taking variables.

A fourth and final possible reason that may account for the lack heterogeneity of modal pupil responses in the June, 1971 study may be the socio-economic status of the subjects in the sample. That is, I consider most of the subjects used in the June, 1971 study to be from the upper-and-lower class rather than from the upper-and-lower middle class social groups. I have formed this opinion on the basis of my limited transactions with the pupils while interviewing them, not on the basis of knowing their parents' occupations. As Van den Daele writes about Baldwin's interpretation of the self-ideal, "...the self-ideal should reflect demands made upon the person by virtue of his social position, while transformations of the self-ideal should parallel the growth of the self and the ever-widening experience of the self."

Ego-Ideal and Ego-Norm as Learner:

Van den Daele's theory of ego development guides me to expect that subjects will implement common principles of evaluation in diverse content areas. The ego-norm as learner is in part a different content area of the ego as a device for making preferential judgments. It is also more than a different content area, because it reflects given judgments as well as preferential judgments. However, since the device for making such judgments reflects a common element of both the ego-ideal and the ego-norm as learner, I do expect them to be related, as noted in Table 3 in the previous section of this report. Therefore, I infer that the hypothesis is upheld.

The eighth and final main step in the June, 1971 study will be testing and modifying the revised form of The Pupil Role Interview. As suggested

by Huber, this basically will involve an analysis of each question to discover if two or more questions are nested in one grammatical question, and the use of words and expressions in the interview questions that would be common the third graders. After this analysis, Roberts, Huber, Gropper, and Oligario will test a further revised form of the interview and interviewer procedure with several, public school third grade pupils from lower class groups. By the third week in December, this process should be completed.

The function of the spring 1972 study.

It is important to emphasize that this research is considered in many respects a pilot study. There are several aspects of the research about which we hope to gain additional information.

First, we wish to clarify CCEP's use of developmental psychology. One of the fundamental principles of developmental psychology is that its stages are ordered in a logical hierarchy as well as an empirical one. It is this logical hierarchy which enables us to look for differences between pupils in different Follow Through programs. Differences in stable stages of development among such children will be difficult to detect. However, differences in the child's perceptions of the logic of his environment are more readily discoverable. We hope the 1972 spring study will reveal which questions tap the child's perceptions of his environments and which his stable level of development. Currently, we propose four classes of interview questions to help make this discrimination:

(1) questions that deal with specific events which occur in the classroom,

(2) questions which tap the child's perceptions of all classrooms in general,

(3) questions which deal with the child's concept of an ideal classroom, and

(4) questions aimed at the child's stable level of development.

Hypothetically, questions of the first class will yield answers most influenced by the logic of the classroom environment. Environmental input decreases through the fourth class of questions, which will probably be derived from Van den Daele's ego-development interview.

Secondly, we hope to contruct an interview which will lend itself to various types of non-developmental categorization. The intention is to find how non-developmental variables relate to developmental differences. Samples of such variables are:

(1) the child's perception of alternate routes and goals in learning, and

(2) intrinsic-extrinsic nature or reward for classroom activities.

It may be noted that these variables are closely related to certain variables being used by other areas of the project.

A third objective of the pilot study is to determine minimal levels of training and competence for interviewers and coders. We are well aware that this instrument to be practical, it must be amenable to use by non-professionals.

These, then, are the principal questions we will address to the 1972 spring data.

APPENDICES

A. Appendix A. The Pupil Role Interview used in the June, 1971, Study

B. Appendix B. The Pupil Role Interview

C. Appendix C. Van den Daele's Preliminary Draft of the Ego Development Precis

D. Appendix D. Van den Daele's Twelve Stages of Ego Development

APPENDIX A

The Pupil Role Interview Used in the June, 1971, Study

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Part I. The Structure of the Pupil's Perceptions

1a. Tell me what you learn in school in the morning/afternoon.

P_1 Is there anything else ycu learn?

P_2 How do you learn X in school? (X is primarily language based e.g. reading?

P_3 Does everybody learn X that way?

P_4 Why do you learn X in school?

P_5 How do you learn Y in school? (Y is primarily manipulative and/or symbolic, e.g. science.)

P_6 Why do you learn Y in school?

P_7 Is there anything else you learn?

1B. Tell me, do you learn X at home? If the answer is "no", do you learn anything at home that you don't learn at school?

P_1 How do you learn X at home?

P_2 Why do you learn X at home?

P_3 Do you learn Y at home?

P_4 How do you learn Y at home?

P_5 Why do you learn Y at home?

P_6 Do you learn A, B, C, ... X at home? (Question all items from 1a and P_1, but do not probe.)

2a. What does your teacher do to help you learn X?

P_1 Why does your teacher help you learn X by_____?

P_2 Does your teacher know how much you are learning in X?

P_3 How does he/she find out?

P_4 What does your teacher say when you have learned your lesson in X?

P_5 Does she say that because you are _____ (Child's word) or because your work is (Child's word) ?

P_6 Why does the teacher think you or your work is _____?

2b. What things do you use to learn X in school?

P_1 How do you use these things?

P_2 Why do you use_____(refer to previous response) to learn?

2c. Do other children in the classroom do anything to help you learn X?

P_1 How do they help you?

P_2 Why do they help you?

3a. How do you know when to start X?

P_1 How do you know when to stop X?

P_2 Why do you stop X when _____?

3b. Is there more than one way to learn X?

P_1 What are some of the ways you can learn X?

P_2 How do you know which way to learn X?

P_3 How do you know when you have learned X?

4a. Is there something all the children have to do everyday?

P_1 Why?

4b. Are there any rules in your school?

P_1 Are there any special things that girls are supposed to do in school in school that boys are not supposed to do?

P_2 Why?

P_3 Are there any special things that boys are supposed to do in school that girls are not supposed to do?

P_4 Why?

P_5 Are there any special things that teachers are supposed to do in school that children are not supposed to?

P_6 Why?

P_7 Are there any special things that children are supposed to do in school that teachers are not supposed to?

P_8 Why?

5a. What does it really mean to learn?

5b. Is to learn the same in school as it is away from school?

5c. More probing...Does learning happen by accident? Etc.
(Probing in depth.)

Part II. The Structure of the Pupil's Ego-Ideal (Questions selected from Van Den Daele's Ego-Ideal Interview.)

1a. When you are grown up, what two or three kinds of work would you like to do? Which would you like to do the most? Why would you like to do that?

2a. When you are grown up, what kind of house would you like to live in?

2b. What would you like to see out the window?

2c. Why would you like to see X out the window?

3a. When you are grown up, what would you like your boy/girl friend to think of you?

3b. Why?

3c. What will you have to do ... ?

Part III. The Structure of the Pupil's Ego as Learner

Let's pretend you could go to any kind of school you wanted to. What kind of school would you like to go to?

1a. What two or three things would you like to learn in school?

1b. Which would you like to learn the most?

1c. Why would you like to learn X?

2a. What would you like the teacher to do to help you learn X?

2b. Why would you like the teacher to do that?

3a. What rules would you make up in that school?

3b. What would you do to make up the rules?

3c. Why would you . . . ?

4a. You've told me about the school you would like to go to. Is there anything you would like to change in the school you are in now?

4b. What would you do to change X in the school you are in now?

4c. Why would you . . .?

APPENDIX B

The Pupil Role Interview

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Part I. The Structure of the Pupil's Ego-Norm as Learner.

Teachers:

1a. What one or two special things did teachers do to help you get what you like?

1b. Why should teachers have done _____?

1c. What one or two special things should teachers do to help you get what you like?

1d. Why should teachers do _____?

1e. What did teachers do to help you learn about things in class?

1f. Why should teachers have done _____?

1g. What did teachers do to help you learn right from wrong in your class?

1h. Why should teachers have done _____?

Parents:

2a. What one or two special things did your parents do to help you get what you like?

2b. Why should your parents have done _____?

2c. What one or two special things should your parents do to help you get what you like?

2d. Why should your parents do _____?

2e. What did your parents do to help you learn about things in class?

2f. Why should your parents have done _____?

2g. What did your parents do to help you learn right from wrong in your class?

2h. Why should your parents have done _____?

Classmates:

3a. What one or two special things dod your classmates do to help you get what you like?

3b. Why should your classmates have done _____?

3c. What one or two special things should your classmates do to help you get what you like?

3d. Why should your classmates do _____ _____?

3e. What did your classmates do to help you learn about things in class?

3f. Why should your classmates have done_____?

3g. What did you classmates do to help you learn right from wrong in your class?

3h. Why should your classmates have done _____?

Self:

4a. What one or two special things did you do to help yourself get what you like?

4b. Why should you have done _____?

4c. What one or two special things should you do to help yourself get what you like?

4d. Why should you do _____?

4e. What did you do to help yourself learn about things in class?

4f. What should you have done _____?

4g. What did you do to help yourself learn right from wrong in your class?

4h. Why should you have done _____?

4i. What one or two special things did you do to help others in your class get what they like?

4j. Why should you have done _____?

4k. What one or two special things should you do to help others in your class get what they like?

4l. Why should you do _____?

4m. What did you do to help other learn about things in class?

4n. Why should you have done _____?

4o. What did you do to help others learn right from wrong in your class?

4p. Why should you have done _____?

Part II. The Structure of the Pupil's Ego-Ideal. (Questions selected from Van den Daele's Ego-Ideal Inter ew.)

1a. When you are grown up, what two or three kinds of work would you like to do? Which would you like to do the most? Why would you like to do that?

2a. When you are grown up, what kind of house would you like to live in?

2b. What would you like to see out the window?

2c. Why would you like to see X out the window?

3a. When you are grown up, what would you like your boy/girl friend to think of ;you? (The friend should be the same sex as the pupil.)

3b. Why?

3c. What will you have to do...?

APPENDIX C

Van den Daele's Preliminary Draft
of the Ego Development Précis.

*This Précis is not for publication
or general circulation

Ego Development Précis

This is the first draft of a coding précis which is destined to undergo revisions. Numerous examples need to be added and, no doubt, numerous clarifications need to be made. However, if the general conceptual orientation which generated the précis is more or less in mind, the rater's intuitive grasp of the system may suffice in ambiguous situations to derive a reasonable approximation to the subject's ego level.

The twelve stages of the present ego system are divided into four groups of three stages which correspond to the pre-operational, operational, formal operational, and "advanced" formal operational periods. Within each of these periods, and ititial stage corresponds to a general dominant focus on the subjective experience, a subsequent stage corresponds to a general focus on the instrumental relations of the self to various ends, and a final stage corresponds to some formulation of an objective order. Since stages are hierarchical and cumulative, various issues which were dominant at an earlier stage are reintegrated as new principles are applied.

If the characteristics of the various periods of cognition are kept in mind and the successive decalages of subjective experience, instrumental actions, and objective order within these periods grasped, responses may be coded relatively unambiguously, or so it is hoped.

Stage 1: Egocentric

The choice is self-justifying. The subject justifies choice by reference to his wish for the choice. Justification is circular.

I like it.
I want it.
I need it.

A purple dog. (Why?) I like purple dogs. (This is stage 1 if and only if the element a=a and not a A. If a A, then the response is stage 3, categorical.)

At times although the subject has made a choice, he fails to provide a justification, but provides a continued elaboration of the choice. Again the choice appears self-justifying. No reason needs to be provided.

A race car. (Why?) You know how to drive a race car? You pull a shift like this....

Reasons of the "I don't know" form are not stage 1 since this answer implies some intuition that some reason for choice other than the self's choosing is required.

Stage 2: Contiguous Associational

The subject apprehends that choices are associated with correlated attributes, functions, or outcomes. The subject, however, does not distinguish between the accidental and the necessary nor does he possess the knowledge that there is a distinction between the two. So frequently, the subject's reasons for choice may appear as only a capricious justification. The attributes, functions, or outcomes associated with choice are particularistic and concrete and usually immediately associated with the choice, hence contiguous.

Car (Why?) Drive it on a road.

Clothes (Why?) I could wear them to school. (Other things could be worn to school?) Yes. (What?) Clothes.

A house without broken windows. (Why?) To keep the flys out.

Justifications which fail to relate to the choice in a contingent or functional manner are Stage 1 elaborations rather than justifications.

Stage 3: Categorical

The subject's justifications derive through apparent class inclusions. The classes, however, are not true classes since the subject does not hierarchically contrue objects or choices as necessary members of a class (see example below). The attribution of class characteristics, however, does simplify the conplexities of purely functional justifications. An evaluative orientation is obtained which constrains the domain of choices to a potentially smaller set. Moreover, this stage provides a milestone in the subject's attempt ot conceptualize an objective order.

Farmer (Why?) Cause I like to work (What do you have to do to learn to be a farmer?) Practice a lot. (Work is valued as pseudo-general class.)

Work in a summer school. (Why?) Because it's more fun. (Would you rather work in a summer school or have more fun?) Have more fun.

Like parents to think I'm good boy (Why?) N.A. (What do you have to do to be good?) Don't do anything bad.

Drive a snow shovel. (Q) Because it's so much fun.

A nice house (Q) It's not ugly.

A sink, a stove, and a baby. (Q) Because it would be my own stuff.

A house like my Dad's (Q) So I would be happy.

A boy who works (Q) Because I already work. (The subject does not distinguish the present from the future state.)

One million. (Q) So I can make more money (Such quantitative modifiers often occur at this stage. The future role is construed as something which has to do with some sort of quantitative difference.)

Stage 4: Hedonistic-Avoidant

Choices are instrumental to the self's pleasure and avoidance of anxiety or pain. Typically, choices are justified through ramification of negative consequences if choice were different or not realized. This mode of approach to problem-solving is associated with general commitment to the status quo and the command, admonitions, and directions of others.

Be a baton twirler. (Why?) Because I don;t get tired of them.

Take care of my family (Why?) Because I don't want my girl friends to see my children with long shaggy hair. (Actually this is somewhat a transitional statement with some of the characteristics of Stage 5; however it was rated Stage 4 because of the affective tone connoted in the interview which implied personal unease rather than instrumental competence.)

School bus (Why?) So I could get rid of my kids.

Nice wife. (Why?) So you wouldn't go bankrupt and get into trouble.

Like to have lots of children. (Why?) People would think I was stupid if I didn't.

Stage 5: Pragmatic-Opportunist

Choices are instrumental to the self's job, task, function, or performance. The emphasis is upon expediency and fulfillment of role demands.

Typically, responses are more positive, end-oriented, rather than conflict avoidant, although such responses do occur. When they occur, however, they relate to the task and its implications.

I'd like to make 75 to 100 dollars a week. (Why?) So I could make a good living. If you didn't make a lot of money, it would be a dull life.

Like to live in an apartment. (Why?) Cause if you wanted to borrow something, all you would have to do is go and borrow it from somebody.

Large house (Why?) If you had a lot of kids, a large house would be handy.

Large house (Why?) So children can play and not disturb you.

Stage 6: Naive Normative

Choices are instrumental to social approval and acceptance. Norms of behavior which are sanctioned by the subject's reference group provide the usual justification. However, these norms do not derive from a systematic consideration of higher order principles. They appear as sufficient, but not necessary conditions of choice.

A wife who is real good to the children (Why?) If they are in sports stuff, go to the games. The kids would not like her if she was not nice to them. It's good policy to be nice. (This provides an excellent example of a Stage 5-6 transitional response. It implicates that at the basis of the normative orientation is the pragmatic orientation of the Stage 5 respondant.)

I'd like to see good things out the window because people can get the wrong impression about you. I don't want them to think I live in a slum.

Proud (Why?) Because most people want people to be proud of them. I don't want people to think I'm a failure. I don't want people to say

there goes their son the failure.

Stage 7: Mutuality Orientation

Choices instrumental to the feelings, intentions, despositiions, and attributes of people who are selves like the self. These aspects are viewed as prior to the trivialls normative. Selves endure, posssess continuity, and a certain individuality. The self may choose in a way that makes him happy or realizes his personal desires so long as the happiness of others is not compromised.

(Clothes?) A lot of people like styles. But a lot of time they don't look good on people. I like to wear what looks good on me.

(Figure?) I don't think it really matters. A lot of people go by people's looks, but that really wears off fast. You get to know the people's personality and looks don't really have too much to do at all. All I want is to be healthy, really healthy, so I can do things.

(Church?) The person who does not go to church but tries is just as good a person as someone who goes to church..

(Window?) Everybody would like an ocean view or something like that. I like nature stuff, the outdoors. (Why?) Well, I live outdoors, go hunting and fishing. I've been raised that way, I guess I have it in my blood. (This subject is transitional Stage 6-7 with normative and individualistic elements concurrent)

Parents....Talking to me before. Don't care if I was brave or anything. She would be happy if I was happy. Most parents want to think their children were successful. That really makes them feel great so their lives were not wasted.

Parents....Successful, I suppose. I'd like them to think that way of

me then cause they don't think I'm going to make much of myself now. Kind of worried about me now.

Stage 8: Hierarchical Orientation

Choices instrumental to the realization or maintenance of a preferential order. Choices derive from the self's appraisal of his own aptitudes and competencies and the constraints implied by the preferential order.

Biology concerns everyday life. Every thing you do concerns biology in some way. Biology cannot really be refused. Biological principles and rules may be related to life. The guy without biology does not understand life.

APPENDIX D

Van den Daele's Twelve Stages of Ego Development

	Self	Instrumental	Objective Order
Preoperational	1 egocentric	2 contiguous associational	3 categorical
Concrete Operational	4 hedonistic avoidant	5 pragmatic opportunistic	6 naive normative
Formal Operational	7 intentional relativism	8 hierarchical orientation	9 societal values
Advanced Formal Operational	10 nature of man	11 ideal role-taking	12 philosophy of value

X. THE CCEP TEACHER AND PARENT SURVEYS Walter Furman

Introduction

Since the last progress report, the social context researchers have made substantial progress in data processing and interpretation. The 1970-1971 data collection was finally completed in August. Codebooks for teachers' and parents' questionnaires were completed in September, and preliminary tables have been run, using the computing facilities available at Columbia and Teachers College. The codebook for the aides' questionnaire has just been completed, and it is anticipated that tables showing the marginal distribution of aides' responses will be available within the next two weeks. The most formidable difficulty encountered in data processing has been the formulation of appropriate codes for open ended questions. After much debate, sensitive but economical codes have been devised, and appropriate programming and data processing techniques utilized. The codes that were developed for several of the formidable open ended questions on the survey instruments are appended to this section of the report.

The following discussions of the progress of the data analysis and interpretation on the teacher and parent surveys need to be prefaced by several comments regarding the purposes of the survey . The survey was small, understaffed, amazingly inexpensive, and the methodological caveats of its execution are underscored throughout the report. The intention of the survey study was to investigate the overall social system surrounding each observed classroom, expecially as it reflected the systematic implementation of a sponsor's model, and to articulate with the in-class data collection. At the inception of our project, it was hypothesized that the school was a socializing institution, and that the whole system of social relationships surrounding the classroom indirectly affected the experience and learning of the child. Examining this hypothesis, we believe, has

helped all the aspects of CCEP's work so far. However, the social context study was recognized from the start as a small scale complement for the major in-classroom activities of the project, and the contribution that was asked of it was not to rigorously test hypotheses about the effects of the out-of-class social context on what transpired in the classroom, but rather to develop an adequate conceptualization of the problem, to develop hypotheses for further study, and to provide some data relevant to questions identified. This is the path we shall follow in this progress report and in our final analysis of the data.

CCEP Teacher Survey

The initial results of the teacher survey seem promising at this time. Many of the variables that were included on the instrument do, in fact, vary significantly by model, and although the instrument was designed with foreknowledge of the programs and with the intention of capturing the differences that were observed in the initial field work, it is nonetheless gratifying and not completely expectable for a survey instrument to validate the hunches of a researcher.

This progress report on the teacher survey is based only on the breakdown of responses to each item by the Follow Through or comparison model identification of the respondent. Several variables and clusters of variables have been identified for discussion here in order to exemplify the type of analysis that will be done with the survey. However, it must be emphasized that the results we are presenting are only preliminary results, and suffer from major drawbacks because of the stage of the analysis that we are currently at. The first fault is that many of the findings beg multivariate analysis, the examination of an observed relationship in terms of some other variable that logically and theoretically can be expected to influence the observed relationship, and as yet we have not

turned our attention to this type of analysis. Secondly, the data from the social context study is as yet being considered in isolation from the various other enterprises of the CCEP, and therefore, despite the high intrinsic interest of the data and questions we are examining, the relevance of this effort to the overall questions being asked by CCEP is only marginally evident. The integration of the social context study with the other aspects of CCEP must await the final report.

A further caveat must be issued concerning the conclusiveness of the CCEP's preliminary survey results, and that is the matter of sample size and selection. The total number of respordents we have at this time is 116, and that is an unusually small number for survey analysis. The sample size does by no means invalidate the survey, but it does necessitate extreme caution in generalizing from the results of such a small sample, and it also requires strong relationships between variables in our data before they can be recognized as statistically significant. Furthermore, the projects and schools chosen for inclusion in this survey were not chosen for representativeness of their overall social context, but because they contained a classroom exemplary of the sponsor's curriculum model. In response to these manifest difficulties of sample selection, we have used, and will continue to use, the following safeguards.

1. Fieldwork observations which will clarify the survey findings and put them in a proper perspective.
2. Comparison of our results with the sponsor's programmatic intentions. Our experience so far has been that the differences we have observed both in the field and in our survey results reflect most strongly the sponsor's organizational and curricular model, though of course with some local modifications.
3. Recognition of the tentativeness of our findings. The CCEP 'social

context of classroom autonomy' survey for 1970-71 was viewed as a pretest and pilot study for a more comprehensive survey which was to follow. Because of the termination of our data-gathering activities we are left with highly tentative yet extremely provocative conclusions.

The first variable we will consider in our discussion of the survey results is recruitment. Under this heading we include information on how the teacher came to her job, including her information sources, how important preferences for school or program were in the decision to take or the teaching job, and whether or not the job was assigned to the teacher or she made a more or less voluntary decision to join the program. There is ample reason to suspect that the type of recruitment of a staff will affect its commitment to organization goals and its adherence to a set of norms that either reinforce, alter, or negate the aims of a program constructor.

The patterns of information and motivation that brought the teachers in our sample to their jobs is not, at first glance, strikingly different for the models we are considering. We intend to create two indices regarding recruitment. The first is voluntarism of employment, an index combining at least the following three variables; (1) the importance of "wanting to work in this program," (2) the importance of "wanting to work in this school," and (3) the importance of "assignment to the job by a local education agency." The third item is, of course, negatively related to voluntarism of employment. Without being able to specify as yet the distribution by model of this index, the following results suggest some differences by model. (1) Englemann-Becker (E-B) teachers in our sample are slightly higher than Bank Street, Bushell, and Comparison school teachers on the importance of assignment to the job by a local education agency. (see Table 1.) (2) Comparison

teachers, as expected, are high on the importance of wanting to work in the school. The responses to the item "wanting to work in this program" do not, however, differentiate by model, so we must be cautious in our discussion of results until the indices and further data analysis have been completed. The foregoing discussion of recruitment is intended primarily as an example of the type of issue and the type of analysis we are now grappling with, and by no means are the results conclusive of anything yet.

Table 1*:
Importance of 'Assignment to the job by a local education agency' BY Model

	Bank St.	Bushell	E-B	Comp.	
Very Important	26% (10)	26% (7)	39% (11)	27% (6)	
Somewhat Important	10 (4)	0 (0)	18 (5)	0 (0)	
Not at all Important	49 (19)	63 (17)	29 (8)	68 (15)	
Total N	39	27	28	22	(126)

Socialization

An hypothesis basic to the rationale of the CCEP survey is that teachers are initiated into and learn their teaching roles in a manner that is similar to the way that children are taught their classroom roles. To investigate the methods by which the teachers in each model learned how to conduct their classrooms, the following list was included on the instrument and the teachers were asked to rate (on a 4 point, Likert type scale) how important each item had been to them in learning how to implement the model. The 11 items on the list were the following. The Roman numeral following

*The above table shows as the major cell entries the column percentages. No answers (NA) are not shown in the table, though they are included in the column percentages, thus explaining why the percentages shown do not always add up to 100%. The total number of responses to the question is shown at the lower right, the number upon which all the percentages are based. The following tables will be in the same format.

each item is explained below.

1. Regular In-Service training. (I)
2. Special seminars or training sessions prior to beginning the job. (I)
3. Knowledge gained from other teachers. (IV)
4. Knowledge gained from aides. (IV)
5. Teaching methods courses. (II)
6. Recollection of your experience as a student. (III)
7. Supervision and feedback from the administration. (I)
8. Your readings in books about education. (III)
9. The reaction of children to the techniques you tried out. (III)
10. Practice teaching. (II)
11. Other things.

The above list is divisable into four distinct types of socialization mechanisms. Type I comprises the training and knowledge that is intentionally provided for the teacher by the school or program she is working in. Those items on our list included in this category are indicated by the Roman numeral I. Type II socialization mechanisms are formal professional type training, and here include teaching methods courses and practice teaching. Type III mechanisms are personally gained knowledge, while type IV mechanisms are collegially gained knowledge. We feel that creating such a typology gives us great power in discussing how socialization relates to the other parameters of each model. Several tables with brief discussions are given below as illustrative of our first findings regarding socialization.

Table 2 shows teachers' ratings of the importance of special seminars or training sessions prior to beginning the job by model.

Table 2:
Importance of 'Special seminars or training' BY Model

	Bank Street	Bushell	E-B	Comparison	
Very Important	56% (22)	48% (13)	68% (19)	14% (3)	
Quite Important	21 (8)	22 (6)	18 (5)	14 (3)	
Somewhat Important	13 (5)	11 (3)	4 (1)	18 (4)	
Not Important	10 (4)	15 (4)	7 (2)	50 (11)	
Total N	39	27	28	22	(116)

The above results, showing the massive differentiation of Follow Through from comparison teachers, exemplify our findings in the other variables included in Type I socialization, school or program provided training. Clearly then, teachers in Follow Through recognize the training effort as important, and we can hypothesize that Follow Through, as a major innovation in school structure, will increase all types of intentional organizational socialization.

We present no tables on the importance of the Type II socialization mechanisms (i.e. formal, professional training) because the first results show no significant differences by model. Prior to seeing the data we had guessed that the teachers in the most novel, highly structured and regularized programs, that is the Bushell and Englemann-Becker teachers would have perceived their formal professional training as less relevant to their current job performance, but the data do not show such a trend. Multivariate analysis is necessary to clarify the results we have obtained.

Table 3:
Importance of 'Recollection of your experience as a student' BY MODEL

	Bank St.	Bushell	E-B	Comp.	
Very important	5% (2)	15% (4)	7% (2)	5% (1)	
Quite important	28 (11)	7 (2)	25 (7)	23 (5)	
Somewhat important	36 (14)	41 (11)	43 (12)	50 (11)	
Not important	31 (12)	30 (8)	18 (5)	18 (4)	
Total N (includes NA)	39	27	28	22	(116)

Table 3 presents some interesting findings on one of our indicators for the Type III socialization mechanisms, personally gained knowledge, In the table, and some of the other relating to Type III socialization mechanisms which are not presented here, we wee a slight trend for Englemann-Becker and Bushell teachers to be a little low on the importance of the personal types of socialization for learning how to conduct their classrooms.

Table 4, shown below, shows that the comparison teachers, and to some extent the Bank Street teachers, report more collegial influences than do our sample of Bushell and E-B teachers. This result is one of many which point up this phenomenon, the differential importance and functioning of the teacher peer group by model. It is anticipated that this phenomenon will be analyzed and discussed at some length in the final report.

Table 4:
Importance of knowledge gained from other teachers BY model

	Bank St.	Bushell	E-B	Comp.	
Very important	23% (9)	15% (4)	18% (5)	46% (10)	
Quite important	39 (15)	48 (13)	50 (14)	32 (7)	
Somewhat important	31 (12)	26 (7)	25 (7)	14 (3)	
Not important	5 (2)	7 (2)	4 (1)	4 (1)	
Total N	39	27	28	22	(116)

In summary, then, our discussion of how the teachers of the different models are socialized for their positions has revolved around a four fold typology of socialization mechanisms that we have contructed. The models apparently vary in the importance to the teachers of their (1) school or program training experience, (2) formal professional training, (3) personally gained knowledge, and (4) collegially gained knowledge. Follow Through's main impact is seen as strengthening Type I mechanisms. Another intriguing hypothesis that we shall investigate is that the more prescriptive and dominative programs will rely primarily on socialization Types I and II, while the less prescriptive, more integrative programs will rely on Types III and IV, personal and peer group socialization methods.

The Teacher - Aide Relationship

The teacher-aide relationship is one of the most complex and significant themes we are looking at in this study. As of now, we have less than half of the data relevant to this question in usable form, since the aides' questionnaires are not yet coded and the observational, interview, and documentary records are also not ready for use in analysis. A prime interest of one

of the social context study staff, Shaw, is the analysis of the teacher-aide relationship by using pairs of teachers and aides as the unit of analysis, and even though that technique was not an integral part of the original design of the survey, it might be of major importance in the data analysis submitted in the final report. Nevertheless, in a few weeks, when the aides' data become available, it will be possible to investigate such things as the extent of agreement or disagreement among teachers and aides on job definitions, or norms relating to student autonomy, etc., and characterize schools and models as wholes using these different indices. Such findings can be related to both the characteristics of the models and also to the characteristics of the personnel staffing the model.

Using the data we presently have available from the teacher questionnaires, we shall set out below some tentative findings, generalizations, and hypotheses regarding the teacher-aide relationship in each of the models we have studied. A basic premise of this undertaking is that the relationship between the several adults in the classroom will contribute strongly towards the definition of the overall social system of the classroom. Therefore, the expectations and norms transmitted to the children, in the sense of the classroom as a model of society, will depend greatly on such things as the division of labor and responsibility in the class, and on the communication and affective content of the teacher-aide relationship. The tables and discussion below show some first findings on a few such issues.

The models observed last year show rather distinct and consistent patterns of who teaches what. Table 5 gives one indication of how central to their main responsibility the teachers in each model considered teaching certain selected subjects. The question from which this table is derived was an open ended question, asking the teachers in effect to select, from all the innumerable things they do, those few tasks or processes that were their

primary responsibilities.

Table 5:
Teachers' Mention of Responsibility for Teaching of Reading and/or Math BY Model

	Bank St.	Bushell	E-B	Comp.	
Reading	17% (6)	65% (17)	26% (7)	8% (1)	
Math	0 (0)	4 (1)	26 (7)	0 (0)	
Reading and Math	0 (0)	8 (2)	26 (7)	0 (0)	
No mention of Reading or Math	83 (30)	23 (6)	22 (6)	92 (12)	
Total N	36	26	27	13	(102)

Table 5 shows that Bushell teachers include the teaching of reading as a major part of their job definition, that E-B teachers include teaching reading, math, or both about equally as part of their primary responsibilities, while the Bank Street and Comparison teachers by and large do not conceptualize their prime responsibilities in this manner. Another aspect of the teachers' self answered job definition must be adduced to clarify the picture presented above. Table 6 reports the per cent of the teachers in each model who, in response that same question regarding their primary classroom responsibilities, answered with statements that conveyed the impression that they were responsible for, or supervised in some way, the entire academic or cognitive learning program in their classroom. Examples of answers coded in this way were; "I teach the academics," or "everything," or "I am responsible for setting up and integrating the curriculum."

Table 6:
Per cent of teachers who mention 'Overall Cognitive Responsibility for Classroom' BY Model

	Bank St.	Bushell	E-B	Comp.	
Mention Overall Responsibility	62% (23)	65% (17)	30% (8)	69% (9)	
Total N	37	26	27	13	(103)

In this aspect of job definition, we find approximately uniform avowal of the overall responsibility for the academic domain of the classroom within all models except for the Englemann-Becker teachers. Without providing further data to clarify the picture drawn above, let us say that one tentative hypothesis we can suggest here is that a teacher's job definition will reflect the degree of integration of both the knowledge and social orders within her classroom (as defined by Grannis, et.al., CCEP Progress Reports II and III.) E-B teachers report specific, discrete tasks as their concept of their job, reflecting their position as recipients of preplanned and structured lessons, while the other teachers in the sample, to differing degrees, define a variety of types of integration and coordination of classroom activities as central to their job.

The issue here, then, is not just what do the teachers actually do, but how do they perceive, conceptualize, and relate their primary responsibilities as teacher. Our code for these answers (see the appended codes) picks up all instances of teachers' responses mentioning subjects taught, lesson preparation, and overall curricular supervision, and these items we suggest are most obviously related to the major institutional goal of instruction and CCEP's conceptualization of the knowledge order. Our code also picks up such aspects of job definition as group size (the size of the group the teacher instructs or feels responsible for), classroom management

(non-instructional), the supervision of other staff, and whether or not various types of communication are included as salient aspects of the job definition. These latter items we see relating to the social order of the classroom, and by combining the responses we have received we anticipate being able to formulate an index relating indices related to the integration of the knowledge and social orders implied in the teachers' job definitions. Furthermore, in most cases the structure of our code articulates adequately with the structure of the responses themselves. Having ranged the responses on these theoretical dimensions, we now have a powerful tool for investigating the relation of certain types of job definitions with personal and organizational variables collected in the survey.

The above aspects of the teacher's job definition are only the beginning of the investigation of the relationship between teachers and aides in each of the models. Teachers were asked to specify what the aides' primary responsibilities in the classroom were, and these answers were coded in a manner nearly equivalent to the code used for the teachers' reporting of their own jobs. Also, on a separate questionnaire, aides were requested to specify their primary tasks from a list that was prepared for that purpose, but that data is not yet available. We intend to compare teachers' characterizations of their own and their aides' jobs, as well as aides' characterizations of their own jobs to investigate whether any major discrepancies exist. Agreements and discrepancies in mutual role definitions will likely result in unclear or even contradictory messages regarding social and learning norms being signalled to children.

Two tables will illustrate both the type of question we used and the responses by model concerning discrepancies the teachers perceived between their own and their aides modes of functioning in the classroom. Tables

7 and 8 report the responses to a question which asked the teachers to simply state whether or not a statement was a true characterization of the relationship between themselves and the aide(s) in their class.

Table 7:
Per cent of Teachers Reporting Agreement on Teaching Method , BY Model

	Bank St.	Bushell	E-B	Comp.
% Reporting Agreement	45% (14)	42% (11)	78% (18)	42% (5)
Total N	31	26	23	12

Table 8:
Percent of Teachers Reporting Agreement on "How Much Discipline to have in Class" BY Model

	Bank St.	Bushell	E-B	Comp.
% Reporting Agreement	76% (25)	85% (22)	87% (20)	55% (6)
Total N (includes NA)	33	26	23	11

To the researchers, the extent of expressed disagreement reported in Table 7 is highly significant, especially in light of the question format which we sense tended to elicit favorable or agreement prone, answers. Tables 7 and 8 taken together point out the dominant uncoordination of teachers' and aides' methods in those conventional classrooms into which the presence of aides has been injected. Within the Follow Through programs, the observed patterns of agreement and disagreement on classroom procedures are fairly complex. At this time, we would hypothesize that the pattern of teacher and aide agreement would best be explained by reference to the following three variables.

(1) The social background of the professional and paraprofessional group.

(2) The expressed norms of traders and aides regarding proper social and learning norms for in-school behavior.

(3) The degree of externally imposed task routinization in the jobs of the teacher and aide.

Measures from the questionnaires of perceived frequency and purposes of observation and evaluation, as well as the interviews with program supervisory personnel and the sponsor's written specifications should allow us to make judgments concerning this variable.

The teacher-aide relationship is clearly a complex subject that will require much intensive analysis and pondering. Soon, when the aides' data becomes available, the complexity will increase, but so will the potential scope of analysis and explanation. We are convinced that the structural relations of teachers and aides serve as a touchstone for staff morale, program to community relations, and the internal coherence of the learning and social norms being inculcated into and modelled for the children. Though, of course, the analysis of the data from this one survey, even including last year's research as a whole, cannot conclusively testify to the certainty of our conclusions, it is anticipated that, in the final report the relationship of teacher to aide in each model will be a central focus of analysis and that generalizations supported by some evidence will be adduced regarding the hypotheses articulated in this discussion.

Teachers' Norms

The last subject we shall cover in the present report is the normative component of the teacher role. Several batteries of items were included on the instrument in order to tap the teacher's values related to certain educational procedures and outcomes. The first question we pose in this section is a purely descriptive one. How do the norms expressed

by teachers for the social and knowledge dimensions of classroom procedures and outcomes vary by model? We shall postpone our discussion and hypotheses of these issues until the descriptive evidence is before us.

Table 9 deals with teachers' norms regarding one aspect of knowledge transmission in the classroom, specifically, how important an outcome to them was "pupils learn(ing) the facts covered in the curriculum."

Table 9:
Importance of 'Pupils learn the facts of the curriculum' By Model

	Bank St.	Bushell	E-B	Comp.
Very Important	5% (2)	7% (2)	39% (11)	0% (0)
Quite Important	21 (8)	41 (11)	54 (15)	27 (6)
Somewhat Important	44 (17)	30 (8)	7 (2)	55 (12)
Not too Important	18 (7)	15 (4)	0 (0)	14 (3)
Not Important	8 (2)	0 (0)	0 (0)	4 (1)
Total N	39	27	28	22

The results are quite striking. Virtually all of the E-B teachers adjudge learning the facts of the curriculum to be either very or quite important. Bushell teachers rank second to the E-B group on the reported importance of learning curricular facts, while the Bank Street and comparison groups are weighted more heavily towards the not important end of the scale.

With regard to another aspect of the knowledge domain, Table 10 reports the extent of teachers' agreement with the following statement, "The effective teacher has complete control of the learning situation at all times." The import of this statement is that the learning situation must be teacher dominated and hence by inference the canons of knowledge must

be teacher given. Both Englemann-Becker and Bushell teachers are highly in agreement with the statement, while the Bank Street and comparison groups express slightly more disagreement than agreement with the statement. Lest the reader be given a misleading impression, we must point out that on many other variables relating to the knowledge order, the Bushell teachers opted for integrative type responses.

Table 10:
Agreement with "The effective teacher has complete control of the learning situation at all times" By Model

	Bank St.	Bushell	E-B	Comparison	
Strongly Agree	21% (8)	56% (15)	56% (15)	14% (3)	
Mildly Agree	21 (8)	26 (7)	19 (5)	32 (7)	
Mildly Disagree	37 (14)	7 (2)	15 (4)	27 (6)	
Strongly Disagree	18 (7)	4 (1)	4 (1)	18 (4)	
Total (includes NA)	38	27	27	22	(114)

Having presented two tables which show that teachers' norms for certain aspects of knowledge control and transmission are strongly related to the model they work in, we now turn to two tables exhibiting differentiation by model with regard to the social norms transmitted in the class. Tables 11 and 12 report the importance to teachers of pupils learning (1) to listen and follow directions(table 11) and (2) to follow rules that apply to the whole class(table 12).

Table 11:
Importance of "Pupils learn to listen and follow direction" By Model

	Bank St.	Bushell	E-B	Comparison	
Very Important	54% (21)	63% (17)	93% (26)	50% (11)	
Quite Important	44 (17)	19 (15)	7 (2)	32 (7)	
Somewhat Important	2 (1)	11 (3)	0 (0)	18 (4)	
Not too Important	0 (0)	7 (2)	0 (0)	0 (0)	
Total N	39	27	28	22	(116)

Table 12:
Importance of "Pupils learn to follow rules that apply to the whole class" By Model

	Bank St.	Bushell	E-B	Comparison	
Very Important	39% (15)	18% (5)	75% (21)	41% (9)	
Quite Important	39 (15)	56 (15)	21 (6)	32 (7)	
Somewhat Important	17 (7)	26 (7)	4 (1)	27 (6)	
Not too Important	5 (2)	0 (0)	0 (0)	0 (0)	
Total N	39	27	28	22	(116)

Without exaggeration, it can be said that the items used to elicit the last two tables represent what have traditionally been considered as perhaps the two single most important social goals of American education. Whether it be radical critics of the educational establishment denying senseless discipline and conformity, or Dreeben (1967), identifying the inculcation of the norm of universalism as a basic of "what is learned in school," everyone assumed that such norms were actually transmitted in

the school, and basically through the agency of the teacher. However, only our E-B respondents readily rank those two items as very important. Bank Street and conparison teachers, on these as on many other normative issues, answered similarly, while Bushell teachers, though fairly high on the importance of following directions, rank quite low on importance to them of pupils' learning rules that apply to the whole class.

What do these distributions or the knowledge and social norms signify? In conjunction with our knowledge of the recruitment, social-ization, and administrative practices of each program they signify first the success of the sponsor's attitude-changing attempts. Each model implies an operative set of norms for the teacher, and tries to assure compliance with the prescribed modes of procedure. If a teacher's attitudes are at odds with the normative climate of a model, then more likely than not either the classroom will not reflect the sponsor's program or a variety of other frictions will result.

Once having created stable indices for teacher norms in the social and knowledge domain, it will be possible to investigate the sources of strain present in each model. Aside from the comparison of teachers' and aides' norms on some of the [illegible] issues, data we impatiently await, we can also compare the norms expressed by teachers for the proper treatment and instruction of children with the norms the teachers espouse for proper treatment of themselves as teachers by both administration and parents. Do teachers match the normative components of the autonomy and integration of child's role with similar norms for their own role? We must hypothesize as affirmative answer, since this last topic has brought us full circle to an operationalization of a basic premise and rationale for this study as stated previously, that teachers are initiated and supported in their role as teachers in ways similar to how they initiate and support children in their role as pupil.

XI. ANALYSIS OF PROJECT DIFFERENTIATION IN PARENT INTERVIEW DATA

Peter Shaw

The following analysis of parents' responses is divided into the three areas of concern noted in the Progress Report Outline submitted earlier: (1) knowledge of what goes on in the classroom, (2) contact and communication with the program, and (3) degree of intrusiveness of the program in family life and change of parents' perception of their child. In terms of parent knowledge of the classroom, and differential project impact on the family, this brief report touches on the areas previously discussed in the Third Progress Report in the section "Preliminary Analysis of Parent Interview Data." The following discussion treats the topics of parent classroom knowledge and perception of child more comprehensively, and introduces the new variable of parent contact with the program. The analysis also benefits from the addition of two control "Open Classroom" schools and the ability to machine process the data.

1. Knowledge of classroom

a. On this variable, results were roughly comparable to those contained in the Preliminary Analysis of the Third Progress Report: Notable here is that Follow Through (F-T) classroom practices remain somewhat obscure for E-B parents, and that the parents of children in the "Open Classroom" comparison schools showed highest degree of ignorance.

Table 1. Per cent of parents able to detail any classroom characteristics:

Table 1:
"Can you describe the classroom?"

		Bank St.	Bushell	E-B	Comp.	
NO	Col.Pct.	2.8%	4.9%	17.5%	42.9%	
	N.	(1)	(2)	(7)	(9)	
YES		97.2	95.1	82.5	57.1	
		(35)	(39)	(33)	(12)	
	Total N*	36	41	40	21	(138)

*See footnote bottom of next page

b. Follow Through parents' descriptions of their children's classrooms were often highly complex and showed a high level of awareness. The complete code developed for parents' classroom descriptions may be found in the appendix. In this analysis, however, we have limited ourselves to two types of subjects taught and one index of "other descriptors" of classroom activity. The two types of subjects we specify here are termed "academic" and "integrative". Academic subjects were taken as those which were readily identifiable as such: reading, arithmetic, language, etc. Integrative subjects were those such as art, drama, cooking, or cognitive skills taught by means of materials, games, or play. In terms of academic subjects, Bank Street and Bushell parents described a much wider range than E-B parents, who faithfully reported the E-B emphasis on language, reading, and arithmetic:

Table 2: Per cent of parents identifying different sorts of academic subjects taught:

	Bank St.	Bushell	E-B	Comp.	
Reading, Language Math only	17.1%	12.8	36.4	8.3	
	(6)	(5)	(12)	(1)	
Writing, Science Spelling only	8.6	2.6	0.0	16.7	
	(3)	(1)	(0)	(2)	
Both groups only	45.7	46.2	12.1	25.0	
	(16)	(18)	(4)	(3)	
All combinations with other subjects	14.4	12.8	6.0	0.0	
	(5)	(5)	(2)	(0)	
Did not mention	14.3	25.6	45.5	5.0	
	(5)	(10)	(15)	(6)	
Total N*	35	39	33	13	(119)

*NA's (no answer) are omitted from all tables. "Total N" refers to total number of parents from each model who gave some kind of response to the question. The number in parentheses to the right of each table is the total number of respondents who answered the questions upon which the percentages are based.

This table also reflects the inability of the Comparison school parents to describe any classroom activities.

In terms of integrative subjects mentioned, Bank Street parents seemed to have received a clear message that such subjects were given heavy emphasis in their children's classrooms, Bushell and E-B parents in turn accurately reflected their programs' lack of emphasis on this sort of activity:

Table 3:
Per cent of parents identifying integrative subjects as taught

	Bank St.	Bushell	E-B	Comp	
Mentioned	71.4 (25)	10.3 (4)	9.1 (3)	41.7 (5)	
Did not mention	28.6 (10)	89.7 (35)	90.9 (30)	53.3 (7)	
Total N	35	39	33	12	(119)

The last variable we examined in terms of parents' awareness of classroom was "other classroom descriptors." Four were coded: Ability to move about the classroom (mobility), free time, field trips, and ability to differentiate the activities of different teaching personnel (teacher deployment).

Table 4:
Per cent of parents identifying "other classroom descriptors"

	Bank St.	Bushell	E-B	Comp.	
Free Time	2.9 (1)	2.6 (1)	3.0 (1)	0.0 (0)	
Mobility	8.6 (3)	0.0 (0)	0.0 (0)	0.0 (0)	
Teacher Deployment	0.0 (0)	38.5 (15)	30.3 (10)	0.0 (0)	
Field Trips	20.0 (7)	0.0 (0)	0.0 (0)	8.3 (1)	
Did not mention	71.4 (25)	59.0 (23)	66.7 (22)	91.7 (11)	
Total N	35	39	33	12	(119)

Remarkable here is the salience of teacher-deployment as a characteristic of Bushell and E-B parents, and its absence in the Bank Street descriptions. This may reflect the relatively low degree of actual contact with the classroom Bank Street parents showed relative to the other programs, and which is elaborated below in the nest section. One hypothesis that suggests itself is that low classroom contact for Bank Street parents means they rely more on the descriptions of their children for a picture of classroom activity, and that children do not discriminate the functions of teachers and aides.

2. Contact and Communication with Project

a. School-Classroom contact

In detailing a few of the indicators of parents' concepts of the classroom, we contended that a basic division could be made between Follow-Through parents, nearly all of whom were able to describe at least some aspects of their childrens' classrooms, and Open Classroom parents, 43% of whom were unable to say anything about what went on in class. The sources of this information about classrooms were undifferentiated however, and the following discussion makes the basic point that although most Follow Through parents can say something about the classroom, their personal involvement, both in type and amount varies considerably among projects. For purposes of this discussion, two types of indicators of parent involvement in their projects were taken - awareness of participation in PAC, and visits to the school and classroom.

b. Visiting. The question "how many visits have you made to the school this year" received the following responses:

Table 5:
"How many time have you visited school?"

	Bank St.	Bushell	E-B	Comp.	
1-2	35.3 (12)	14.7 (6)	27.5 (11)	27.8 (5)	
3-4	26.5 (9)	17.1 (7)	27.5 (11)	22.2 (4)	
5+	26.5 (9)	65.9 (27)	32.5 (13)	22.2 (4)	
0	11.8 (4)	2.4 (1)	12.5 (5)	27.8 (5)	
Total N	34	41	40	18	(133)

A useful way to approach this table is to see which frequency has the highest per cent of each project's parent population. Using this approach we have the following array of modes:

	visiting frequency	% project population
Bushell	5+	65.0%
E-B	3-4	70.1
Bank St.	1-2	45.7
Comp.	0/1-2	27.8

Bushell parents as a group show the highest tendency for the most visits, followed by E-B and Bank St. in that order, with Comparison school parents showing the least inclination to visit their children's schools.

There are, of course, many reasons for parents to visit schools: Table 5, for instance, does not differentiate between parents who went to deal with the school bureaucracy, and those who went to observe their children's classrooms in progress. It is thus useful to present a tabulation of responses to the question "Have you seen the classroom in action?"

Table 6:
Per cent of parents having seen classroom in action

	Bank St.	Bushell	E-B	Comp.	
Yes	63.9% (23)	73.2 (30)	65.0 (26)	52.4 (11)	
No	36.1 (13)	28.6 (11)	32.5 (13)	42.9 (9)	
Did not mention	0.0 (0)	0.0 (0)	2.5 (1)	4.8 (1)	
Total N	36	41	40	21	(138)

This simple table shows that in the systems surveyed, more Bushell parents actually saw how the classroom was run. There is little difference between Bank Street and E-B, and Comparison school parents again had the lowest degree of exposure. Bushell parents, then, show the highest degree of contact, both in visiting school and seeing the classroom. An obvious explanation which suggests itself for this result is that the Bushell model makes many provisions for bringing parents into the classroom by hiring them as aides and asking for volunteer help. This explanation for high parent-school contact would seem to be borne out by an examination of the responses to the question "Have you ever worked or volunteered in the school?"

Table 7:
Per cent of parents who have worked or volunteered in school

	Bank St.	Bushell	E-B	Comp.	
Yes - worked	5.6% (2)	53.7 (22)	20.0 (8)	0.0 (0)	
Yes - volunteered	16.7 (6)	19.5 (8)	25.0 (10)	0.0 (0)	
No	77.8 (28)	26.8 (11)	47.5 (19)	89.5 (17)	
Did not mention	0.0 (0)	0.0 (0)	7.5 (3)	10.5 (2)	
Total N	36	41	40	19	(136)

Notable here are the high precentage of Bushell employees among the parent population, and Bank Street's corresponding lack of either workers or volunteers. E-B parents are almost equally divided between those who have worked or volunteered and those who have not. Although no cross-tabulation was attempted between working-volunteering and contact with school and classroom, the obvious pattern seems to be that Bushell's high visiting activity is accounted for by its active recruitment of workers and volunteers. Likewise, E-B's attempts to engage the community in the same ways are less ambitious and result in lessened visiting activity, while Bank Street's lack of volunteer and employment opportunities resulted in the least amount of personal contact. The effects of the three separate approaches to the community might be seen in other ways: for instance, on other tables not shown here Bushell parents showed a higher degree of initiation in making contact with teachers and the school than Bank Street parents. E-B was also high on parents, rather than school or teacher initiating contact, while Bushell alone reported that aides from the community had also been influential in suggesting the importance of contact to the parents. One hypothesis which seems to suggest itself from this sort of data is that the more the program provides for active parent involvement in work or volunteer programs, the more initiative individual parents will show in making contact, and thus, by extension, the greater the involvement of parents in the program. Increased involvement, however, is not the same thing as increased parent control, and this question in itself presents interesting avenues for further investigation.

b. PAC Noticeable differentiation by project was also detectable in PAC involvement. This is of importance because of the fact that, at least according to Federal Follow Through Guidelines, PAC is supposed by be a constant in all projects, whereas volunteer opportunities and employment

openings are arranged at the discretion of each community. Bearing in mind the supposed universality of PAC then, the responses to the question "Is there a parent organization?" are rather startling:

Table 8:
"Is there a parents' organization?"

	Bank St.	Bushell	E-B	Comp.	
Yes	52.8% (19)	85.4 (35)	60.0 (24)	42.1 (8)	
No	13.9 (5)	2.4 (1)	12.5 (5)	36.8 (7)	
Don't know	33.3 (12)	12.2 (5)	27.5 (11)	21.1 (4)	
Total N	36	41	40	19	(136)

Here again the rank order of contact observed in the previous section is reproduced: Bushell, E-B, Bank Street, with Comparison schools having least awareness. What is startling is the extent of the dichotomy between Bank Street and Bushell, expecially considering the simplicity of the question. Fully 47.2% of the Bank Street parents surveyed either had no knowledge of a parent organization or were not sure if it existed, whereas only 13.6% of Bushell parents shared the same degree of ignorance. The more explicit question, "Have you heard of PAC?" revealed a certain semantic problem in the E-B and Bank Street populations, for it seems possible that in the cases of these two models, PAC must be going under a different name in some communities.

Table 9:
Per cent of parents who have heard of PAC

	Bank St.	Bushell	E-B
Yes	44.4 (16)	78.0 (32)	30.0 (12)
No	38.9 (14)	22.0 (9)	62.5 (25)
Don't know	5.6 (2)	0.0 (0)	0.0 (0)
Yes, other name	11.1 (4)	0.0 (0)	7.5 (3)
Total N	36	41	40

(119)* Comp. schools omitted

Generally, proportionately more Bank Street parents seem to have heard of PAC than E-B parents. Still, the rather stark dichotomy between Bushell and the other models on this recognition of the PAC name is quite dramatic. Even when we allow for a semantic problem on the part of E-B and Bank Street parents, their combined participation in PAC or something like it is still far below the degree of participation in the Bushell model. This dichotomy is retained in the next table we took, which tabulates responses to the question "Did you ever attend PAC meetings" although the differences are narrowed somewhat.

Table 10:
Per cent of parents who have attended PAC meetings

	Bank St.	Bushell	E-B
Yes	28.6 (10)	61.0 (25)	33.3 (11)
No	62.9 (22)	39.0 (16)	52.8 (19)
Don't know	8.6 (3)	0.0 (0)	16.7 (6)
Total N	35	41	36

(115)* Comp schools omitted

From the above examination of PAC variables, it is evident that the Bushell model seems to inform and involve Follow Through parents much more than the other two models. Between Bank Street and E-B it seems that while more Bank Street parents have been informed of the existence of PAC, more Englemann-Becker parents have become involved in it. In the case of Bushell, the high degree of contact combines with the effectiveness of the PAC to give a picture of strong links to the local communities. Whether these links result from the employment and volunteer opportunities available with Bushell cannot be statistically determined at this point, but it seems probable.

3. Influence of Model on Home

Measuring the influence of each model on the home would be a highly complex task in the best of research settings. Measures of change in parents' perception of their children were included in the questionnaire, but these questions received such widely differing answers that it was thought best not to attempt to combine and weight the responses for this preliminary report. Instead, we report the responses to the question "Does the model influence your behavior towards your child?"

Table 11:
Per cent of parents feeling program has influenced their behavior towards children

	Bank St.	Bushell	E-B	Comp.	
Yes	19.4 (7)	41.5 (17)	45.0 (18)	0.0 (0)	
No	77.8 (28)	58.5 (24)	47.5 (19)	100.0 (20)	
Don't know	2.8 (1)	0.0 (0)	7.5 (3)	0.0 (0)	
Total N	36	41	40	20	(137)

From this table, it appears Englemann-Becker parents have been most influenced by their children's programs, Bank Street least of the Follow Through models, and Comparison parents not at all. When queried as to how the models affected their behavior, parents cited two basic sorts of influence: more help and interest in child's school work, and changes in their interaction patterns with the children. If we examine the latter, we can see that over a third of the E-B parents claimed either to have a better understanding of their children than before, or used more of what could be loosely termed positive reinforcement. E-B parents also had the largest proportion of responses of this type:

Table 12:
Types of parental behavior change mentioned

	Bank St.	Bushell	E-B	Comp.	
How to act with children/more aware of needs	19.4 (7)	10.0 (4)	20.5 (9)	0.0 (0)	
Positive reinforcement	0.0 (0)	22.5 (9)	20.5 (8)	0.0 (0)	
Did not mention, did not apply	80.6 (29)	70.0 (28)	64.1 (21)	100.0 (20)	
Total N	36	40	39	20	(135)

The evidence from this table suggests a tentative hypothesis we might investigate further - namely whether E-B parents' relatively higher involvement in their children's schoolwork through the "take-home" procedure (table not shown) carries over in effecting a correspondingly greater change in parent-child interaction patterns.

Conclusion

An overall look at the variables examined in this extremely cursory analysis suggests three very general conclusions. First, the Follow Through

models surveyed all seem to get across to the parents a fairly accurate picture of classroom activity which differs markedly by model. Moreover, these models convey this information to a high proportion of all parents. Second, parents' involvement in the programs through their own initiative as well as through the channels provided by eahc model differs quite dramatically, with Bushell at the high end of the scale and Bank Street at the low end. Lastly, the changes in parent behavior also seem to vary considerably, with Englemann-Becker parents changing most in the directions stipulated by the model. All these preliminary findings demonstrate clearly the need for further analysis. The analysis which will be conducted will certainly attempt to further illuminate the points made above, as well as examine numerous other variables not even touched on here.

But at this point is is necessary to make it quite clear that the further analysis of this data will have all the drawbacks and pitfalls mentioned previously in our introduction and our analysis of the teacher data, to wit- small sample size, inability to accurately stratify communities by demographic and economic data, lack of time and money to retrieve non-respondents, and so forth. However, we can say that we are surprised and pleased by the ability we now have to isolate project characteristics and make useful generalizations about them despite the drawbacks of the survey.

Appendix: Selected Codes from the CCEP Parents, Teachers, and Aides Survey Codebooks

CCEP Teacher Survey

Question 12. If more than one adult works in your classroom, please describe below the tasks that are primarily your responsibility in the classroom?

Question 13. Again, if you work with other teachers, aides, or adults in your classroom, please describe those things that are primarily their responsibility.

CCEP Teacher Survey Codebook

QUESTION	COLUMN		PUNCH
12 (see above)	1/35	Planning (specifically mentioned; include scheduling, and developing)	
		Curriculum planning, general, long range, etc.	1
		Specific subjects	2
		Daily planning, scheduling	3
		Numbers 1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA (Does Not Apply)	9
		NA (No Answer)	0
12	1/36	Planning, non-cognitive (trips, games, etc.)	
		mentioned	1
		DNA	9
		NA	0
12	1/37	Supervising, Responsible for: Cognitive (include integrating, coordinating, setting up)	
		General, all teaching learning, the basics..	1
		Follow Through program, or program curriculum	2
		Introducing skills, concepts	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
12	1/38	Group Size (supervise/responsible for or teach)	
		individual	1
		group (small or unspecified)	2
		whole class or large group	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		the children...grouping unspecified	8
		DNA	9
		NA	0

CCEP CODEBOOKS: Selected Codes, Continued.

QUESTION	COLUMN		PUNCH
12	1/39	Social order	
		makes grouping tracking decisions	1
		discipline	2
		other, non-cognitive classroom management	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
12	1/40	Supervising/teaching other staff	
		planning of other staff (must mention planning	1
		teaching, teaching of specific subjects	2
		other behavior, conduct	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		General supervision of other staff, unspecified or other	8
		DNA	9
		NA	0
12	1/41	Supervising classroom environments or attitudes	
		mentions	1
		DNA	9
		NA	0
12	1/42	Teaching subjects I	
		reading (including phonics)	1
		math	2
		1 and 2	3
		DNA	9
		NA	0
12	1/43	Subjects II	
		writing	1
		spelling	2
		science	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0

CCEP CODEBOOKS: Selected Codes, Continued.

QUESTION	COLUMN		PUNCH
12	1/44	Subjects III	
		social science/studies	1
		integrative subjects	2
		language	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
12	1/45	Communication	
		with staff of other classrooms	1
		with administration, sponsor	2
		with parents	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		communication within classroom (talk to aide, children, etc.)	8
		DNA	9
		NA	0
12	1/46	Evaluating students progress	
		tests	1
		other types evaluation/unspecified	2
		1 and 2	3
		DNA	9
		NA	0
12	1/47	Recording keeping/clerical	
		general, all unspecified	1
		attendance, register	2
		other (reports on students...)	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
12	1/48	Providing and preparing learning materials	
		mentions	1
		DNA	9
		NA	0
12	1/49	Custodial work	
		classroom	1
		child	2
		1 and 3	3
		DNA	9
		NA	0

CCEP CODEBOOKS: Selected Codes, Continued.

QUESTION	COLUMN		PUNCH
13	1/50	Other adults; planning	
		general, helping teacher plan, cognitive	1
		own teaching, subject, program area	2
		other planning, non-cognitive	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
13	1/51	Subjects I	
		reading	1
		math	2
		1 and 2	3
		DNA	9
		NA	0
13	1/52	Subjects II	
		writing	1
		spelling	2
		science	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
13	1/53	Subjects III	
		social sciences	1
		integrative	2
		language	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
13	1/54	Group size (teach, work with, responsible for)	
		individual	1
		group - small or unspecified	2
		whole class/large group	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		children, grouping unspecified (but works with kids, etc...)	8
		DNA	9
		NA	0

CCEP CODEBOOKS: Selected Codes, Continued.

QUESTION	COLUMN		PUNCH
13	1/55	Communication	
		other classrooms	1
		administration, sponsor	2
		parents	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		within the classroom, sharing ideas with t, kids,...	8
		DNA	9
		NA	0
13	1/56	Evaluating students progress	
		tests	1
		other types evaluation	2
		1 and 2	3
		DNA	9
		NA	0
13	1/57	Record keeping/clerical	
		general, all, unspecified	1
		attendance, register	2
		other (reports on students), corrects papers...	3
		1 and 2	4
		2 and 3	5
		1 and 3	6
		1 and 2 and 3	7
		DNA	9
		NA	0
13	1/58	Child and class custodial (lunch, rest time, bathroom, recess, cleaning room, bulletin boards, standard supplies...)	
		1 of above	1
		2 of above	2
		3 of above	3
		4 of above	4
		5 or more of above	5
		DNA	9
		NA	0
12 and 13	1/59	Teacher aide relationship; responsibility and power	
		teacher dominant	1
		teacher slightly dominant	3
		teacher/aide mutuality	5
		DNA, cannot judge	9
		NA	0
12 and 13	1/60	Teacher-aide relationship: planning	
		teacher dominant, all	1
		teacher dominant in subjects, long range, aide in non-academic	2
		aide assists, all	3
		separate, in respective areas	4
		mutual, all	5
		DNA	9
		NA	0

CCEP CODEBOOKS: Selected Codes, Continued.

QUESTION	COLUMNS		PUNCH
12 and 13	1/61	Division of teaching responsibilities (subjects only, must be specifically mentioned) (centrals are reading and math) (peripherals are all others)	
		teacher's all centrals, aides others	1
		teacher's centrals and peripherals, aides peripherals only	2
		teacher's centrals (and peripherals), aides participate in centrals, but t's have more of centrals	3
		centrals and peripherals shared	4
		DNA	9
		NA	0
12 and 13	1/62	Division of custodial responsibilities	
		teacher does most	1
		shared	2
		aide most	3
		aide all	4
		DNA	9
		NA	0
		(of those that are reported as things primarily responsible for)	

*59------Instructions

Teacher mentions responsibility for "all" "overall" teaching, learning etc. speaks in authoritative terms. Aides teach minor subjects and/or do clerical, custodial work.

Teacher as above, but aides have significant cognitive responsibility (teach major subjects, or several minor ones, offer advice, help in community.)

Teacher and aide have equivalent teaching responsibility, aides have some participation in major planning and goal setting. Egalitarian tone.

CCEP AIDE SURVEY

Question 34. What are your feelings about the educational value of Follow Through?

(N.B. For Comparison Schools the question read as follows.) What are your feelings about the educational value of the normal classroom program in your school?

CCEP Aide Survey Codebook

QUESTION	COLUMN		PUNCH
34	56-61	Educational value of Follow Through Program	
	56	Aide evaluation of program/curriculum: general and summary	
		positive only	1
		qualified positive	2
		positive and negative, both aspects cited, rough parity	3
		qualified negative	4
		negative only	5
		other evaluation, cannot judge	6
		no evaluation offered	9
		NA	0
	57	Educational value: program to children match	
		appropriate for (helps, is good for...) lower class kids, inner city, "these"...kids compensates for special deficits.	1
		appropriate for slow learners, compensates...	2
		appropriate for fast learners	3
		negative evaluation of program to children match	8
		DNA, no mention of program to children match	9
		NA	0
	58	Evaluation of curriculum/program	
		curriculum/program clear, good, ...	1
		materials good	2
		specific methods good	3
		uses integrative methods	4
		negative evaluation of curriculum/programs/ materials or methods	8
		NA	0
	59	Evaluation of student progress	
		general growth/progress good	1
		academics, basics, skills taught/learned well	2
		behavioral and/or attitudinal results good	3
		negative evaluation of student progress	8
		DNA	9
		NA	0

CCEP Aide Survey Codebook

QUESTION	COLUMN		PUNCH
	60	Evaluation of grouping-extra services	
		individualization good	1
		groups, small groups good	2
		extra classroom personnel good	3
		other positive evaluation of extra services (trips, medical services, lunch, etc.)	4
		negative evaluation of extra services-grouping	8
		DNA	9
		NA	0
	61	Evaluation of administration	
		positive evaluation of administration (training, leadership, support)	1
		negative evaluation of administration	2
		DNA	9
		NA	0

CCEP Parent Survey

Question 10. Can you briefly describe what happens in (child's) classroom to me in your own words?

CCEP Parent Survey Codebook

QUESTION	COLUMN		PUNCH
10	15	Can you describe classroom?	
		no	0
		yes	1
		(If respondent's answer is "no", or if there is no answer, punch columns 15-27 "0", or "N.A.") (D.N.M. = 9)	
	16	Grouping criteria (1): Clustering	
		NA	0
		pupils grouped by subject	1
		pupils grouped by ability	2
		pupils grouped by both	3
		"Groups" simply mentioned	4
		DNM	9
	17	Grouping criteria (2): Individualization	
		NA	0
		mentioned (gets individualized help, etc.)	1
		DNM	9
	18	Manner of teaching/being taught	
		NA	0
		taught	1
		Learn	2
		helped	3
		drilled	4
		other	5
		DNM	9
	19	Academic subjects taught: Reading Math Language	
		NA	0
		reading	1
		math	2
		phonics/language	3
		reading and math	4
		reading and phonics	5
		phonics and math	6
		all three	7
		DNM	9

CCEP Parent Survey Codebook

QUESTION	COLUMN		PUNCH
10	20	Academic subjects taught: Writing Science Spelling	
		NA	0
		writing	1
		science	2
		spelling	3
		writing and science	4
		writing and spelling	5
		spelling and science	6
		all three	7
		DNM	9
	21	Academic subjects taught: Other	
		NA	0
		mentioned	1
		DNM	9
	22	Integrative subjects taught: Making things, Subject X Non-Subject Cooking, Art, etc.	
		NA	0
		mentioned	1
		DNM	9
	23	Play	
		NA	0
		mentioned	1
		DNM	9
	24	Academic subjects mentioned	
		NA	0
		reading, math, language only /col. 19/	1
		writing, science, spelling only /col. 20/	2
		other only /col. 21/	3
		cols. 19 and 20	4
		cols. 19 and 21	5
		cols. 20 and 21	6
		all three	7
		DNM	9
	25	REINFORCEMENT MECHANISMS	
		A. Grades, charts	
		NA	0
		showing cognitive progress	1
		showing behavioral progress	2
		unlinked	3
		DNM	9

CCEP Parent Survey Codebook

QUESTION	COLUMN		PUNCH
10	26	B. Tokens, slips	
		NA	0
		showing cognitive progress	1
		showing behavioral progress	2
		unlinked	3
		DNM	9
		OTHER (Classroom descriptions)	
		NA	0
		free time	1
		mobility	2
		teacher deployment	3
		free time and mobility	4
		free time and teacher deployment	5
		mobility and teacher deployment	6
		all three	7
		DNM	9